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| **CR #: GPCB-CR-**Page **1** of **2** | | | | | | | | | | | | | | | | |
| CHANGE REQUEST INFORMATION | | | | | | | | | | | | | | | | |
| 1. **TYPE OF CHANGE:**   **BASELINE** *(new starts, new documents, etc.)*  **REVISION** *(minor changes to baselined documents or projects; minor changes to project scope, schedule, cost, etc.)*  **RE-BASELINE** *(major/significant changes to Project Technical Scope, Cost, and/or schedule)* | | | | | | | | | | | | | | | | |
| 1. **SENSITIVITY:**   Non-Sensitive  SBU (If SBU complete [NASA FORM 1686](https://ice.exploration.nasa.gov/Windchill/netmarkets/jsp/document/download.jsp?oid=document%7Ewt.doc.WTDocument%3A66163452&u8=1) to accompany the attachments) | | | | | | | | | | | | | | | | |
| 1. **Title of change:** Astrobee FY17/18 Milestone Changes | | | | | | | | | | | | | | | | |
| 1. **PROJECT/Task name(S) (*if applicable)*: HET2 Astrobee** | | | | | | | | | | | | | | | | |
| 1. **Description (*briefly describe the change being requested*):** Due to development delays and new estimated dates for FY18 activities (launch, deployment, commissioning), it is necessary to revised the project’s remaining controlled milestones for Astrobee: (1) Replace “FY17 #1 Cert Unit testing complete” (8/30/2017) and “FY17 #2 Flight Units testing complete” (9/30/2017) with “FY18 #1 Cert/Flight Units testing complete” (11/30/2017); (2) Rename Astrobee “FY18 #1 Astrobee first flight/basic mobility complete” (4/30/2018) to “FY18 #2 Astrobee first flight/basic mobility complete” (date is unchanged); (3) Rename Astrobee “FY18 #2 Astrobee operations demonstration”” (9/15/2018) to ““FY18 #3 Astrobee operations demonstration” (date is unchanged). | | | | | | | | | | | | | | | | |
| 1. **Justification *(why is the change needed)*:** Discussions at the Periodic Technical Review (PTR) 3 Delta identified issues in the avionics design. To address these issues, the project was required to develop and test an additional Astrobee prototype unit (“P4E”). Although the P4E unit significantly reduced risks associated with the avionics subsystem, this activity significantly delayed finalization of design drawings and the start of procurement for certification and flight unit production. Consequently, the project has replanned production to build both certification and flight units concurrently rather than as two separate (and largely sequential) tasks. This approach should save some production time by removing duplicative set up time for assembly. Additionally, acceptance and performance testing can be parallelized by performing ARC testing on the cert unit, while simultaneously sending a flight unit to JSC for network (Joint Station LAN), electromagnetic interference (EMI), and acoustic testing. | | | | | | | | | | | | | | | | |
| 1. **Need DATE & RATIONALE *(approved by date and why this date)*:** 8/30/2017, this is the current due date for FY17 #1. | | | | | | | | | | | | | | | | |
| ***IMPACTS*** | | | | | | | | | | | | | | | | |
| 1. **COST IMPACT:**   No Impact  < = $500K  $500K – $1M  > $1M | | | | TBD (explain): | | | | | | | | 1. **Full Cost Impact Fiscal Year Breakdown (skip table if no impact)**  |  |  |  |  | | --- | --- | --- | --- | |  | FY | FY | FY | | Non-Labor |  |  |  | | FTE (#) |  |  |  | | | | | |
| 1. **SCOPE AND AFFECTED PRODUCTS *(Describe project scope changes including products or deliverables impacted) or mark n/a if none*:** N/A | | | | | | | | | | | | | | | | |
| 1. **Schedule Impact:** The proposed schedule change will not effect the commissioning milestone dates, but does removes some FY18 schedule reserve. The remaining schedule reserve is primarily concentrated between the current on-dock dates for Astrobee’s target ISS upmass flights (Space X-14 and Orbital ATK-9). | | | | | | | | | | | | | | | | |
| 1. **DESCRIBE THE RISK TO THE PROJECT/PROGRAM IF THIS CHANGE DOES NOT OCCUR:** Astrobee project execution will continue to show a three month lag through the first quarter of FY18. | | | | | | | | | | | | | | | | |
| **CR #: GPCB-CR-** Page **2** of **2** | | | | | | | | | | | | | | | | |
| ***POINTS OF CONTACT*** | | | | | | | | | | | | | | | | |
| 1. **Configuration manAGER:**   Name: Mary Koca  Email: [mary.e.koca@nasa.gov](mailto:mary.e.koca@nasa.gov)  Phone Number: 757-864-6951 | | | | | | | | | | 1. **CHANGE Initiator Identification:**   Name: Terrance Fong  Email: Terry.Fong@nasa.gov  Phone Number: (650)604-1349 | | | | | | |
| 1. **Mandatory Evaluator(s) (*fill in as needed, check all that apply)*** | | | | | | | | | | | | | | | | |
|  | GCD Program Manager (PM) | | | |  | GCD Deputy Program Manager (DPM) | | | | | |  | | | GCD Chief Engineer (CE) | |
|  | GCD Program Element Manager (PEM) | | | |  | GCD Resource Manager (RM) | | | | | |  | | | GCD Schedule Analyst | |
|  |  | | | |  |  | | | | | |  | | |  | |
|  |  | | | |  |  | | | | | |  | | |  | |
| 1. **Technical Coordination Points of Contact *(add rows as needed)*** | | | | | | | | | | | | | | | | |
| Name | | | | | | | Center | | | | | | | Discipline | | |
| Maria Bualat | | | | | | | ARC | | | | | | | Element Manager | | |
| Trey Smith | | | | | | | ARC | | | | | | | Systems Engineer | | |
| Jonathan Barlow | | | | | | | ARC | | | | | | | Integration and Test Lead | | |
|  | | | | | | |  | | | | | | |  | | |
| 1. **Continuation Table *(one table per topic [e.g., description, justification, etc.)*** | | | | | | | | | | | | | | | | |
| Enter freeform text here. If you are entering continuation information from page 1, please identify the block/subject being continued. | | | | | | | | | | | | | | | | |
| ***Disposition*** | | | | | | | | | | | | | | | | |
| 1. **Board Recommendation** | | | | | | | | | | | | | | | | |
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| Concur | | Non-Concur | | Voting Member | | | | Concur | | Non-Concur | | | Voting Member | | | |
|  | |  | | Mary E. Wusk, PM | | | |  | |  | | |  | | | |
|  | |  | | Robert Hodson, DPM | | | |  | |  | | |  | | | |
|  | |  | | Anthony Calomino, CE | | | |  | |  | | |  | | | |
|  | |  | | Robert Lowe, RM | | | |  | |  | | |  | | | |

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| GPCB Chair Approval Signature | Date |

**Preparation Instructions**

1. **General Instructions** – A GPCB Change Request (CR) shall be prepared for all submissions to be presented to Game Changing Program Control Board for disposition. If the information required by the form is adequately provided in the data package accompanying the proposed change, the information need not be restated on the form, but may be summarized and/or identified on this form with a reference to the appropriate backup document and paragraph. If a section is not applicable, type “N/A” in the field.
2. **Completion Instructions** – Complete each block on the form as follows:

*CR#:* The GPCB Change Number or revision letter (Format: GPCB-CR-XXXXX) (Assigned by GCD CM).

1. *TYPE OF CHANGE:* Select one checkbox
2. *SENSITIVITY:* Determine the sensitivity of the CR’s attachment(s) and select SBU or public distribution. If SBU is selected, please prepare a [NASA FORM 1686](https://ice.exploration.nasa.gov/Windchill/netmarkets/jsp/document/download.jsp?oid=document%7Ewt.doc.WTDocument%3A66163452&u8=1) to accompany the attachment(s) that are SBU.
3. *TITLE:* Enter a concise title that indicates the primary purpose (topic) of the CR.
4. *PROJECT and/or TASK NAME: Select checkbox(es) as appropriate and enter the Project and/or Task name. (eg., SEP Project / ISP Task, etc.)*
5. *DESCRIPTION:* The description of the change shall be a concise statement of what the identified GCPD board is to render a disposition on.
6. *JUSTIFICATION:* Provide a concise statement of the rationale for the proposed change.
7. *NEED DATE & RATIONALE:* Clearly state when the requirement/document needs to be released for use (hard date is preferable) and provide rational for this particular need date. The date may also be a specific milestone [e.g., a technical review, SRR, PDR, etc.] - consider the date of the signed directive.
8. *COST IMPACT:* Use full cost accounting principles (e.g., include training costs, institutional costs, etc., that accommodate this change).
9. *COST IMPACT FISCAL YEAR BREAKDOWN*: Table used to explain the fiscal year breakdown of any cost impact. The table includes areas for identifying non-labor and the number of FTE.
10. *SCOPE CHANGES: EFFECTIVITY:* Indicate the product or configuration item (i.e. H/W – serial # and lot #, S/W – version, document) effectivity of the change. Effectivity is a method used to designate a specific point (i.e. HW/SW configuration item) of implementation for a change request. Also identify **ALL** of the products (documents, hardware, software, elements, etc.) impacted by this change.(e.g., Project Plan, Resource Loaded Schedule, etc.)
11. *SCHEDULE IMPACT:* Enter any impact(s) to any schedule(s) that this CR may affect. This may include a discussion of the Integrated Master Schedule, project milestones or KDP’s. If controlled milestone is affected, the unique id must be noted.
12. *ASSOCIATED RISKS:* Enter any impacts if this CR non-concurrence takes place. If this CR is mitigating a risk, the unique RISK ID must be noted as well.

***NOTE:*** Formal cost estimates are not required. However, failure to answer all required budget impact questions could result in delays to the standard CR approval cycle, particularly for changes with significant expected cost impacts.

* + CR Initiators are responsible for pre-coordinating initial cost estimates prior to CR submission in order to facilitate CR processing and approval. Initial cost estimates should include:
    1. Informal cost estimates provided by the Technical Coordination POCs (see table on page 2)
    2. Informal cost estimates can be based on best engineering judgment/guess.
    3. Formal cost estimates including contractor assessments will be acquired during normal CR evaluation.
  + CR initiators will not be held to rough cost estimates provided prior to the formal CR evaluation phase.

1. *CONFIGURATION MANAGER IDENTIFICATION:* The Configuration & Data Manager (CDM) will fill in this section with their name, organization, email, and telephone number.
2. *INITIATOR IDENTIFICATION:* Enter the Initiator’s name, organization, email, and telephone number in the appropriate fields.
3. *MANDATORY EVALUATIORS*: Used to identify the mandatory evaluators for this change.
   * List the mandatory evaluators*.*
   * Add other mandatory evaluators not listed on the table to the last row in the table and separate them by a comma.
4. *TECHICAL COORDINATION POC’S TABLE*: Used to identify the individuals that the change was pre-coordinated with.

* Enter the name, center location, and discipline of all the individuals who contributed in the technical pre-coordination of the CR (add rows as needed [one per contact]).

1. *CONTINUATION PAGE:* Use this section to include any other information that needs to be included in the CR or overflow from the first page. *Note: The continuation page table will automatically copy onto the next page as data is added.* The continuation page also includes tables to help organize the extended data of a CR. These tables may be modified, as needed. For a description of the tables included on the continuation page, see the bullets below:
   * Enter any continuation text (please identify the block/subject being continued) from the page 1 of the CR or freeform text that might help explain any required details of the CR. Delete table otherwise.
   * Copy this table if more than one text table is needed (only one topic per table).
2. *BOARD RECOMMENDATION:* The Board Members will use this section to make any recommendations to the initiator about the CR. If concurred, concurrence is based on the board recommendations, not the CR description.

***ATTACHMENTS****:* Include any attachments (e.g., evaluation forms, track changed document) that are part of the CR. Identify each attachment in its header using an A, B, C, etc. numbering scheme (e.g., CR 000000 ATTACHMENT A). *Note: If an attachment is SBU, please prepare a* [*NASA FORM 1686*](https://ice.exploration.nasa.gov/Windchill/netmarkets/jsp/document/download.jsp?oid=document%7Ewt.doc.WTDocument%3A66163452&u8=1) *to accompany the attachment.*