This document contains a brief detail of the tailoring process including three different tailoring examples (Tailored requirements, NEW requirements, and non-applicable requirements) that document the process of tailoring. All three examples are from Range Commanders Council's RCC 319-19 however the examples are applicable to both RCC 319 and RCC 324.

Tailoring Brief

The RCC 319 Flight Termination System (FTS) requirements provide for a contractual-like agreement between the US Space Force and the Range User on specific FTS requirements. An RCC 319 tailoring is valid throughout the lifetime of the program. For incremental changes to the FTS as the program matures, existing tailoring may be revised using a Range-approved Tailoring Change Request process. For significant revisions to a flight safety system (including, but not limited to, FTS redesign or major revisions affecting launch vehicle configuration) an entirely new tailoring from the baseline RCC 319 may be required. The Tailoring process provides a means for formulating a specific edition of RCC 319 (referred to here on out as "this publication"), incorporating only those requirements applicable to a particular Range User's program. Additionally, the tailoring process documents "*whether or not*" the Range User will meet the requirements as written or achieve an Equivalent Level of Safety (ELS) through an acceptable alternative. Requirements of this publication are subject to tailoring within limits.

The purpose of tailoring this publication is to ensure that only applicable requirements are identified and to determine whether the requirement will be met as written, or through an alternative means that will provide an ELS.

The FAA shall be included in the tailoring process for licensed or permitted programs at SSC ranges per the basis of authority in RCC 319 (Ref. RCC 319 Section 1.2).

Although the tailoring may reference waivers, waivers shall be approved through a separate waiver process, as no requirement can be waived during the tailoring process. When a requirement is not met, the Range User can submit a noncompliance request. Details and requirements for submitting noncompliance request(s) can be found in this publication subsection 1.9.

An approved tailoring proposal commonly results with the three following situations:

1. A requirement is determined to be not applicable to the systems and or operations.
2. A requirement is modified based on an ELS which meets the intent of the original requirement.
3. A new requirement is added based on new technologies, propellants, materials, and/or processes.

For the case of an ELS, the Range User is required to submit a detailed rational behind the intent of their proposed tailoring and should clarify how they maintain an ELS with meeting the intent of the requirement. This will require an associated hazard analysis determining the ELS. Upon receipt of a Range User tailoring proposal, Range Safety will evaluate the proposal for determining if an ELS is met by a potential system against all performance requirements. A

change is allowed and documented through the tailoring of the requirement to a particular system/operation if the intent of the requirement is met, and the ELS is maintained.

Similarly, an evaluation for non-applicable requirements will be verified and in the case of new requirements, Range Safety will evaluate the proposal on levels of safety against performance requirements.

Each RCC 319 [T] shall contain a preface paragraph detailing the critical assumptions that were made in writing the tailored edition. The nature of the assumptions shall be such that a change in assumptions may invalidate the RCC 319 [T] or require a change or update. The assumption(s) described in the Tailoring Request form shall include sufficient detail to categorize the scope of the tailored requirement to the specific systems or subsystems affected by the proposed change.

If two or more systems/subsystems are affected by the tailored paragraph, then the assumption(s) shall state which of those systems/subsystems is intended to be included in the scope of the tailoring. If there is a difference in the tailoring for the two or more systems/subsystems, then the tailored paragraph shall be repeated with appropriate tailoring unique to each individual system/subsystem. All changes shall be highlighted in bold. Deletions of text, including partial deletions, shall be shown with the original text marked with strikethrough, preferably in colored text. Insertions of text, including partial insertions, shall be shown with the new text marked with an underline, again, preferably in colored text.

Technical Interchange Meetings (TIMs) are required for Range Users to present their systems to Range Safety and to participate in the active tailoring of the publication. TIMs shall be scheduled as early in the program as possible when program definition is sufficient. RCC 319 [T] TIM data shall be provided to Range Safety at least 30 days before scheduled TIMs unless otherwise agreed to.

The forms for submitting Tailoring Requests are available from the Range Safety offices. (See examples below.) During the TIM process, through dialog and negotiation, Range Safety will comment on the proposed change and dispose of it as “approved as written,” “approved with provided comments,” or “disapproved.”

Please reference RCC 319 Section 1.9 and RCC 324 Section 1.10 for further details on the RCC Tailoring Process.

Tailoring Examples

Guidance for Tailoring is given in RCC 319 Section 1.9 and RCC 324 Section 1.10. The tailoring follows the section requirement paragraph format with the following columns:

Column	Title
1	Paragraph #
2	Original Language
3	Status
4	Tailored Language

5 Tailoring Rationale
6 Range Safety Comment/Approval

Note: the Status is either (I) Information, (C) Comply, (T) Tailored, (N/A) Not Applicable, (NEW) New Requirement, or Non-Compliance [(MIC) Meets Intent Certification, (D) Deviation, (W) Waiver]

In the examples below the Range User provides their recommendations for tailoring and their rationale on equivalent level of safety for Tailored requirements. In the last column, Range Safety would provide comment on concurrence, or non-concurrence of the Tailoring.

Tailoring Example 1. Pre-Flight Testing of Safe-and-Arm Device

Paragraph	Original Language	Status	Tailored Language	Tailoring Rationale	Range Safety Comments
5.2.4	Pre-flight Testing of a Safe-and-arm Device with an Internal Low-voltage Initiator. An internal LVI in a SAD shall undergo a pre-flight test that satisfies all of the following.	C			
5.3.4.a	The SAD shall be tested as close to launch as possible.	C			
5.2.4.a.box.1	The test shall take place no earlier than 10 calendar days before the first flight attempt.	**T**	The test shall take place no earlier than ~~10~~ 15 calendar days before the first flight attempt.	Range user requires an extended test life due to inability to access the SAD after 15 days before launch.	
5.2.4.a.box.2	If the flight is delayed more than 14 calendar days or the FTS configuration is broken or modified for any reason, such as to replace batteries, the device shall undergo the test again no earlier than 10 calendar days before the next flight attempt.	**T**	If the flight is delayed more than ~~14~~ 30 calendar days or the FTS configuration is broken or modified for any reason, such as to replace batteries, the device shall undergo the test again no earlier than ~~10~~ 15 calendar days before the next flight attempt.	Range user requires an extended test life due to inability to access the SAD after 15 days before launch.	
5.2.4.b	Each SAD shall undergo the required tests at ambient temperature IAW Table 4-47 (note 1).	C			

Tailoring Example 2. New Requirements

Paragraph	Original Language	Status	Tailored Language	Tailoring Rationale	Range Safety Comments
4.37		I	**(NEW) Lithium-Primary Battery Analysis and Test Requirements.**	Range User is utilizing Lithium-Primary batteries; therefore, this new section addresses safety-related requirements resulting from utilizing new battery technology.	
4.37.1		C	**(NEW) Additional Requirement**	Additional rationale for requirement	
4.37.2		C	**(NEW) Additional Requirement**	Additional rationale for requirement	

Tailoring Example 3. Non-Applicable Requirement

Name	Original Language	Status	Tailored Language	Tailoring Rationale	Range Safety Comments/Approval Status
5.2.3	**Batteries**	C			
5.2.3.a	Manually Activated Silver-Zinc Batteries. A battery shall undergo pre-flight processing and testing that satisfies all of the following.	N/A		Range User program does not use manually activated silver-zinc batteries.	
5.2.3.a.(1)	Batteries shall be conditioned and processed to ensure they meet critical performance parameters. Pre-flight processing shall be equivalent to that used during qualification testing.	N/A		Range User program does not use manually activated silver-zinc batteries.	
5.2.3.a.(2)	Coupon cells associated with the flight batteries shall be tested IAW the capacity verification test in Table 4-32.	N/A		Range User program does not use manually activated silver-zinc batteries.	
5.2.3.a.(3)	Each battery shall undergo the required tests at ambient temperature within the specified wet-stand life IAW Table 4-32 (note 3).	N/A		Range User program does not use manually activated silver-zinc batteries.	