翻译内容：4.12 USER RULES OPERATIONS

4.12 用户规则操作

The User Rules capability within EADSIM provides the ability to manage platforms' emitters, direct aircraft flight; set status conditions, and trigger other platforms based on events. For damage modeling, it provides a facility to alter an aircraft’s mission and its performance characteristics. The User Rules phase incorporates aircraft return to base triggers and responses as well as the countermeasures capability that was available in previous versions of EADSIM. In addition, the User Rules phase expands the available triggers, platform status conditions, and the responses.

EADSIM中的用户规则能力提供了管理平台发射器的能力，指导飞机飞行；设置状态条件，并根据事件触发其他平台。对于损害建模，它提供了一个改变飞机任务及其性能特征的设施。用户规则阶段包含了飞机返回基地的触发和响应，以及EADSIM以前版本中的反制能力。此外，用户规则阶段扩大了可用的触发器、平台状态条件和反应。

The User Rules phase operates using user-defined triggers and responses. Based on a trigger event, a response can occur. Multiple responses can occur, provided they do not conflict with currently executing responses. If a response conflicts with a currently executing response, the user-defined priority associated with the trigger-response pair determines which response will be allowed to execute.

用户规则阶段使用用户定义的触发器和响应进行操作。基于一个触发器事件，可以发生一个响应。可以发生多个响应，只要它们不与当前执行的响应冲突。如果一个响应与当前执行的响应冲突，与触发器-响应对相关的用户定义的优先级决定哪一个响应将被允许执行。

The monitoring of a platform's current situation includes consideration of items such as events taken by the platform, ARM recognition, radar jamming recognition, recognition of loss of air picture, and recognition of the loss of a commander or subordinate platform. The emitter/receiver management provides a wide range of responses as a function of the current situation. This awareness comes through the capabilities defined by the User Rules phase of the ruleset operating on the platform. These capabilities are currently available for platforms using the following rulesets:

对平台当前情况的监测包括考虑平台采取的事件、ARM识别、雷达干扰识别、空中画面丢失的识别、指挥官或下属平台丢失的识别等项目。发射器-接收器管理提供广泛的反应，作为当前情况的功能。这种认识来自于平台上运行的规则集的用户规则阶段所定义的能力。这些能力目前可用于使用下列规则集的平台。

Flexible SAM Flexible Commander Fighter

灵活的防空导弹 灵活的指挥官战斗机

Airbase

空中基地

SAM Launcher Control Station SAM Launcher

萨姆发射器控制站 萨姆发射器

AGAttacker

AGAttacker

Ground Attacker Commander Laser

地面攻击者指挥官激光

Bomber Fighter/Bomber Wild Weasel Sweeper

轰炸机战斗机轰炸机野生黄鼠狼扫地机

Escort

护送

The User Rules phase allows users to specify certain conditions: i.e., triggers that produce a defined response. User-specified trigger events, such as recognition of an ARM, cause user-specified responses to occur. These responses include shutting down emitters, forwarding alerts for ARMs, activating emitter decoys, and activating towed decoys. The trigger conditions are composed of events—e.g., recognition that an ARM has been launched—combined with the state of the platform. The state of the platform includes whether the platform is currently locked on a target or has interceptors requiring guidance in the air to targets.

用户规则阶段允许用户指定某些条件：即产生规定反应的触发器。用户指定的触发事件，如识别ARM，会导致用户指定的反应发生。这些反应包括关闭发射器，转发ARM的警报，激活发射器诱饵，以及激活拖曳诱饵。触发条件由事件组成--例如，识别到ARM已经发射--与平台的状态结合在一起。平台的状态包括平台目前是否锁定了一个目标或有需要在空中对目标进行引导的拦截器。

The Flexible SAM and Flexible Commander, as well as the Fighter, Airbase, SAM LCS, and SAM Launcher, can also use the User Rules phase to choose an alternate commander for itself or for its subordinates, when the existing commander or subordinate is killed or is lost or regained through communications checks.

灵活防空导弹和灵活指挥官，以及战斗机、空军基地、防空导弹LCS和防空导弹发射器，也可以使用用户规则阶段为自己或其下属选择一个备用指挥官，当现有的指挥官或下属被杀或通过通信检查失去或重新获得。

# 4.12.1 User Rules Trigger Events

4.12.1 用户规则触发事件

The User Rules phase is driven by the evaluation of triggers. Each of the triggers results in an evaluation of the current trigger and platform status to determine the appropriate response, if any. To initiate a given response, the combination of trigger and status conditions for that response must be met. The trigger conditions are:

用户规则阶段是由触发器的评估驱动的。每个触发器都会导致对当前触发器和平台状态的评估，以确定适当的响应，如果有的话。要启动一个给定的响应，必须满足该响应的触发和状态条件的组合。触发条件是

•                Event Trigger

- 事件触发器

•                Message Reception

- 信息接收

•                Message Interception

- 信息拦截

•                EMCON Plan

- EMCON计划

•                Named Trigger

- 命名的触发器

•                Platform-Object Geometry

- 平台-物体的几何学

•                Air-to-Surface Missile and Host Separation (ARM Launch)

- 空对地导弹和主机分离（ARM发射）。

•                ARM Classification

- ARM分类

•                ARM Alert Received

- 收到的ARM警报

•                ARM Threat

- ARM的威胁

•                ARM Time to Impact

- ARM产生影响的时间

•                Target Threat Declaration

- 目标威胁声明

•                Target Illumination Initiated

- 启动了目标照明

•                Jammer Detection/Alert

- 干扰器检测警报

•                Aborted Mission

- 流产的任务

•                Completed Mission

- 已完成的任务

•                Low Fuel

- 低燃料

Responses of reacting platforms are dependent on the state of the platform.

反应平台的反应取决于平台的状态。

Numerous status conditions are available to define the state of the platform.

众多的状态条件可用于定义平台的状态。

The triggers are prioritized to determine which reaction takes precedence when multiple reactions occur. The user can define as many combinations of triggers as desired. For example, one response might be to shut down all emitters if an ARM alert is received. If an ARM alert is received but the platform is guiding interceptors, however, the appropriate response might be to deploy decoys instead of shutting down emitters.

触发器有优先权，以确定在多个反应发生时哪个反应优先。用户可以根据需要定义任意多的触发器组合。例如，如果收到ARM警报，一种反应可能是关闭所有发射器。然而，如果收到ARM警报，但平台正在引导拦截器，适当的反应可能是部署诱饵而不是关闭发射器。

In this case, the latter triggered response interaction would need to be prioritized higher than the former.

在这种情况下，后一个触发的反应互动需要比前一个更优先。

Each of the triggers and status conditions is discussed in the following sections.

每一个触发器和状态条件将在以下章节中讨论。

## 4.12.1.1 Event Trigger

4.12.1.1 事件触发器

When a platform executes an event, the User Rules phase can be triggered. An event is defined as any action logged for subsequent extraction by the Engagement Statistics Post Processor, including activation, battle management events, refueling, maneuvers and reactions. The user is able to select any event that is logged. An example would be that as an aircraft performs a lock action, a response might be to activate additional sensors or to point the platform's sensors. Another example is when an aircraft is performing an evasive maneuver; it can turn off its emitters.

当一个平台执行一个事件时，用户规则阶段可以被触发。一个事件被定义为任何被记录下来供交战统计后处理器随后提取的行动，包括激活、战斗管理事件、加油、机动和反应。用户能够选择任何被记录的事件。一个例子是，当一架飞机执行锁定动作时，反应可能是激活额外的传感器或指向平台的传感器。另一个例子是，当一架飞机在进行规避动作时；它可以关闭其发射器。

Several triggers that were available in the countermeasures phase have been converted to event triggers. These are discussed in Subsection 4.12.4.

在反措施阶段可用的几个触发器已被转换为事件触发器。这些将在4.12.4小节中讨论。

## 4.12.1.2 Message Reception

4.12.1.2 信息接收

The message reception trigger activates upon receipt of any of the specified messages. For the message reception trigger to pass, the specific message must either be a track message or a command message specifying a target.

消息接收触发器在收到任何指定的消息时激活。为使消息接收触发器通过，特定的消息必须是一个跟踪消息或指定目标的命令消息。

## 4.12.1.3 Message Interception

4.12.1.3 信息拦截

The EADSIM Passive RF sensor class is capable of detecting platforms that transmit radio frequency communications. Detection is conditioned on field of view, line-of-sight, and bandwidth considerations as well as probability of signal interception. For deterministic modeling, an additional constraint on minimum signal strength is also applied. The detection capability makes no distinction in the content of the messages transmitted. As long as the detection criteria are satisfied, the transmitting platform is visible to the RF receiver.

EADSIM无源射频传感器类能够探测到发射射频通信的平台。探测的条件是视场、视线和带宽的考虑，以及信号拦截的概率。对于确定性的建模，还适用于最小信号强度的额外约束。探测能力对传输的信息内容不加区分。只要检测标准得到满足，发射平台对射频接收器是可见的。

Platforms detecting RF communications can respond in user-specified ways based on the content of intercepted messages. This capability provides a selectable list of EADSIM message types and protocols. One Message Interception table is specified on the User Rules definition. It provides a probability of message interception as a function of message type and protocol. For this case the Passive RF sensor provides detection of the communication link. After detection of the link is accomplished, the message interception option is evaluated. Only messages that pertain to the detecting platform or one of its assets are evaluated. With this capability enabled, if the transmitted message is not on the list or it did not arrive via a specified protocol, then no interception of the transmitted message occurs. If the transmitted message does map to a specific message type and protocol in the table, a message interception probability draw is performed. The selected probability for the message type/protocol pair is compared to a random number selected from a uniform distribution. If the probability exceeds the random number, the trigger is satisfied. If the probability falls below the random number or else a valid match was not found for Message Type and Protocol, then that trigger condition is not satisfied.

Each intercepted message from the transmitting platform is compared to a list of user-selected message type and protocol pairs within the trigger definition. If a message transmitted with a specified protocol matches to any listed message type/protocol pair, the message interception trigger is then satisfied.

从发射平台截获的每条消息都要与触发器定义中用户选择的消息类型和协议对列表进行比较。如果以指定协议传输的消息与任何列出的消息类型和协议对相匹配，那么消息拦截触发器就得到满足。

As an example, suppose a battalion sends track information to a SAM battery about a bomber aircraft with a self-protection jammer. If the aircraft has a passive RF sensor, is enabled to intercept a “Target Assignment” message type via an encoded protocol, and satisfies the probability draw on message interception, then it could choose to respond by allocating a jammer beam to disrupt the radio receivers at the battery.

作为一个例子，假设一个营向一个萨姆电池发送关于一架带有自我保护干扰器的轰炸机的跟踪信息。如果该飞机有一个无源射频传感器，能够通过编码协议拦截 "目标分配 "信息类型，并满足信息拦截的概率抽样，那么它可以选择通过分配干扰器波束来破坏电池的无线电接收器来进行回应。

## 4.12.1.4 EMCON Plan

4.12.1.4 EMCON计划

The EMCON plan trigger allows specification of standby transition and standby duration. This trigger is used primarily with Supportability Modeling as described in Section 4.15.

EMCON计划触发器允许指定待机过渡和待机时间。这个触发器主要用于第4.15节所述的可支持性建模。

The named trigger allows a platform to trigger another platform. Within one platform's User Rules responses, a named trigger will be defined. The platform will also designate a list of the platforms that should be triggered. When the platform executes its response, each platform designated on the list will have its User Rules phase scheduled, using the designated named trigger.

命名触发器允许一个平台触发另一个平台。在一个平台的用户规则响应中，将定义一个命名触发器。该平台还将指定一个应被触发的平台的列表。当平台执行其响应时，列表上指定的每个平台将使用指定的命名触发器，安排其用户规则阶段。

Within the response, the platforms that can be triggered can be designated by categories. If the desired platforms do not fall within one of the given categories, the user can define trigger groups of platforms. The categories are:

在响应中，可以按类别指定可触发的平台。如果所需的平台不属于给定的类别之一，用户可以定义平台的触发组。这些类别是

-        Self

- 自己

-        Commander

- 指挥官

-        Subordinate

- 隶属关系

-        Flight Leader

- 飞行领袖

-        Wingman

- 翼人

-        Platforms Providing Engagement Support

- 提供参与支持的平台

-        Platforms Providing Current Support

- 提供当前支持的平台

-        Platforms Providing Current Support on this Target

- 目前对该目标提供支持的平台

-        Platforms Receiving Engagement Support

- 获得参与支持的平台

-        Platforms Currently Supported

- 目前支持的平台

-        Platforms Supported on this Target

- 该目标支持的平台

-        Platforms Providing External Surveillance

- 提供外部监视的平台

-        Platforms Receiving External Surveillance

- 接受外部监视的平台

-        Tanker

- 油罐车

-        Target

- 目标

-        Jamming Deconfliction Group

- 解除干扰小组

-        Defined Trigger Groups

- 定义的触发器组

The total number of platforms triggered can optionally be limited. If a limit is defined, the platforms are sorted either by range to target or range to the triggering platform. An option allows exclusion of busy platforms.

触发的平台总数可以有选择地进行限制。如果定义了限制，平台将按照与目标的距离或与触发平台的距离进行排序。一个选项允许排除繁忙的平台。

For example, when an AWACS performs an evasive maneuver, a response may be defined to execute the trigger AWACS\_MANEUVERING. The AWACS might designate its subordinates to be triggered. At the time of the response, the User Rules phase will be scheduled for each of the subordinates, using the named trigger AWACS\_MANEUVERING. The subordinates would have a Trigger Definition for AWACS\_MANEUVERING, which might include the response to turn on additional sensors.

例如，当AWACS进行规避机动时，可以定义一个响应来执行触发器AWACS\_MANEUVERING。该预警机可能指定其下属被触发。在响应的时候，用户规则阶段将为每个下属安排，使用命名的触发器AWACS\_MANEUVERING。下级将有一个AWACS\_MANEUVERING的触发器定义，其中可能包括打开额外传感器的响应。

When a trigger group is specified, this name becomes available to add to a platform. During Scenario Generation, a list of platforms for each trigger group can be defined. For example, an AWACS might want to include a group of fighters on its trigger group that are not subordinates but are escorting the AWACS. The AWACS would then have a trigger group name of ESCORT. Within the AWACS platform definition, all the fighters to be included in the ESCORT group would be specified.

当指定了一个触发器组，这个名称就可以添加到一个平台上。在情景生成期间，可以为每个触发组定义一个平台列表。例如，一架预警机可能希望在其触发组中包括一组战斗机，这些战斗机不是下属，而是为预警机护航的。那么预警机的触发组名称为ESCORT。在预警机平台定义中，将指定所有被纳入ESCORT组的战斗机。

The Named Trigger can also be triggered by three additional methods. Within the FIRE Console, any named trigger defined for the ruleset may be executed through a FIRE Control Action command. A Named Trigger may be activated as the result of a closed Fault Tree gate allowing for partial damage modeling. A named trigger may also be activated as a result of the failure or repair of an FDSC/Inventory item.

命名触发器还可以通过另外三种方法触发。在FIRE控制台中，为规则集定义的任何命名触发器可通过FIRE控制行动命令执行。命名触发器可作为关闭的故障树门的结果而被激活，允许部分损坏建模。一个命名的触发器也可以由于FDSCInventory项目的失败或修复而被激活。

## 4.12.1.6 Platform-Object Geometry

4.12.1.6 平台-物体的几何形状

The platform-object geometry definition allows the triggering of the User Rules phase based on geometry conditions of the platform, its target, and relative measures for the platform and its target. The geometry conditions can be evaluated both as a stand-alone trigger and in combination with event triggers as a status condition.

平台-物体的几何定义允许根据平台、其目标的几何条件以及平台和其目标的相对措施来触发用户规则阶段。几何条件可以作为一个独立的触发器进行评估，也可以与事件触发器结合作为一个状态条件进行评估。

### 4.12.1.6.1 Platform-Object Geometry Definition

4.12.1.6.1 平台-物体的几何定义

The platform-objects geometries are defined on the User Rules phase definition window. This allows platform-object geometries to be defined once and to be used in multiple trigger definitions. Platform-object geometry checks as a trigger are activated through the User Rules phase responses.

平台-物体的几何形状是在用户规则阶段定义窗口中定义的。这允许平台-物体的几何形状被定义一次，并在多个触发器定义中使用。作为触发器的平台-物体几何形状检查是通过用户规则阶段的响应来激活的。

The criteria for the platform-object geometry checks are divided into platform measures, target measures, and relative measures.

平台-物体几何检查的标准分为平台测量、目标测量和相对测量。

Relative

相对而言

yyx

yyx

Range Speed Speed

范围 速度 速度

Delta Altitude Altitude (AGL) Altitude (AGL) Aspect Azimuth Altitude (MSL) Altitude (MSL) Aspect Elevation

三角洲高度 高度(AGL) 高度(AGL) 角度方位 高度(MSL) 高度(MSL) 角度高程

Azimuth Angle Off Nose Elevation Angle Off Nose Range/Range Rate Crossing Angle

方位角偏离机头 仰角偏离机头 射程率交叉角

For example, upon receipt of a commanded assignment, an aircraft might turn on platform-object geometries to check the range of the platform to its target. The platform would have a platform-object geometry trigger to define what occurs when the platform is within a specified range of the target. The response can be to turn on and point its sensors.

例如，在收到指令任务后，飞机可能会打开平台-物体几何图形，以检查平台到目标的范围。平台将有一个平台-物体几何触发器，以定义当平台在目标的特定范围内时发生什么。响应可以是打开并指向其传感器。

### 4.12.1.6.2 Object Definition

4.12.1.6.2 对象定义

The object category defines which objects are evaluated during a platform- object geometry check, the order in which those objects are sorted, and the number of objects that are evaluated. The available categories are:

对象类别定义了在平台-对象几何检查中评估哪些对象，这些对象的排序顺序，以及评估的对象数量。可用的类别有。

-        Commanded Targets

- 指挥的目标

-        Scripted Targets

- 脚本化的目标

-        Engaged Targets

- 参与的目标

-        Current Target

- 目前的目标

-        Home Base

- 首页基地

-        All Tracks

- 所有曲目

-        Authorized Tracks

- 授权的轨道

-        Assigned Tracks

- 分配的轨道

-        Threatening Tracks

- 威胁的轨迹

-        Engaged Tracks

- 参与的轨道

The four categories labeled as targets operate only for those rulesets that utilize the target list. This would include Fighters, AGAttackers, and Laser rulesets. Commanded targets are determined by evaluating the platform's target list, and finding those targets that were assigned by its commander. Scripted targets are the targets on the platform's target list that were specified as scripted mission targets. Engaged targets are determined by evaluating the platform's launch records. The Current target object category is available when the target that satisfied the trigger or status condition satisfies the platform object geometry. Home Base is the platform's designated home airbase. As an example, a platform might want to activate an additional sensor when within a certain range of a target. Or, a platform might want to adopt a particular flight option when within a specified distance of its home airbase.

标记为目标的四个类别只对那些使用目标列表的规则集进行操作。这将包括战斗机、AGA攻击机和激光规则集。指挥目标是通过评估平台的目标列表来确定的，并找到那些由其指挥官分配的目标。脚本目标是平台的目标列表中被指定为脚本任务目标的目标。交战目标是通过评估平台的发射记录确定的。当前目标对象类别在满足触发或状态条件的目标满足平台对象的几何形状时可用。主基地是平台指定的主空军基地。举例来说，一个平台可能想在目标的某一范围内激活一个额外的传感器。或者，一个平台可能想在其母港空军基地的特定距离内时采用一个特定的飞行选项。

The track options allow the object’s perceived position to be used instead of the true position. The All Tracks option evaluates all tracks in the platform’s main and/or ground track file. Authorized Tracks are all tracks in the platform’s track file that have been marked as authorized for engagement. An authorized track is any track that the platform is capable of engaging based on the ruleset options. Assigned Tracks are all tracks marked as assigned by the platform’s commander. Threatening Tracks are all tracks in the track file marked as threatening. The Threatening Track option is only available for the Flexible SAM and Flexible Commander rulesets and is considered any track that threatens the platform or any of its assets. Engaged Tracks are all tracks that are currently marked as engaged. As an example, a platform might want to adjust a sensor’s pointing to locate an assigned track within the sensor’s range.

轨迹选项允许使用物体的感知位置而不是真实位置。所有航迹选项评估平台的主航迹或地面航迹文件中的所有航迹。授权航迹是平台航迹文件中的所有航迹，这些航迹已被标记为授权参与。授权轨道是平台根据规则集选项能够参与的任何轨道。指定轨道是指由平台指挥官标记为指定的所有轨道。威胁轨道是轨道文件中标记为威胁的所有轨道。威胁轨道选项仅适用于灵活防空系统和灵活指挥官规则集，并被视为威胁到平台或其任何资产的任何轨道。交战轨道是指当前被标记为交战的所有轨道。举例来说，一个平台可能想调整传感器的指向，以便在传感器的范围内找到一个指定轨道。

The platform-object geometry checks rely on the position of the platform and the object. Platform-object geometry checks occur independently of flight processing updates and track updates. As a result, these positions are linearly propagated forward to the time of the check. For the platform, the true position will be propagated from the most recent scenario interval to the time of the platform-object geometry check.

平台-物体的几何检查依赖于平台和物体的位置。平台-物体几何检查独立于飞行处理更新和轨道更新而发生。因此，这些位置被线性地向前传播到检查的时间。对于平台来说，真实的位置将从最近的情景区间传播到平台-物体几何检查的时间。

Objects are defined on the User Rules phase definition, and are defined separately from the platform-object geometry definition. This allows a platform-object geometry definition to be used against multiple targets. For example, platform-object geometry might be defined for when a platform is within 10 kilometers of its target. This geometry could be named RANGE10K. Multiple objects can also be defined. One might be for commanded targets, and another might be for scripted targets. Depending on scenario events, a platform might decide to turn on the checking of platform-object geometry RANGE10K for object SCRIPTED\_TGT. This would check the range of the platform and allow a trigger to occur when the platform was within 10 km of its scripted target.

对象是在用户规则阶段定义的，并与平台-对象的几何定义分开定义。这使得一个平台-物体的几何定义可以针对多个目标使用。例如，当一个平台在其目标的10公里范围内时，可以定义平台-对象的几何形状。这个几何体可以被命名为RANGE10K。也可以定义多个对象。一个可能是为指令目标，另一个可能是为脚本目标。根据情景事件，一个平台可能决定打开对SCRIPTED\_TGT对象的平台-对象几何RANGE10K的检查。这将检查平台的范围，并允许在平台距离其脚本目标10公里以内时发生触发。

Options allow evaluation of all candidate objects or selected candidate objects. If the option to evaluate all candidates is selected, the platform-object geometry checks will be performed for each designated object. If the option to evaluate a designated number of candidates is selected, the candidates will be sorted based on their weights. A weight can be assigned to each category of candidate. For example, a scripted target might have a weight of 100. Additional sort criteria allow further sorting amongst categories. These criteria are threat priorities, target classes, and platform-object geometry. The sort using threat priority is only available for Flexible SAM and Flexible Commander rulesets and sets the object’s weight to the user-specified weight minus its position in the platform’s sorted threat list. For example, if the weight for threat priority is set to 100 then the highest priority object in the threat list will have a weight of 100 and the next object in the list will have a weight of 99.

选项允许对所有候选对象或选定的候选对象进行评估。如果选择评估所有的候选对象，平台-物体的几何检查将对每个指定的对象进行。如果选择了评估指定数量的候选对象的选项，候选对象将根据其权重进行排序。可以给每一类候选物分配一个权重。例如，一个脚本目标的权重可能是100。额外的排序标准允许在类别之间进一步排序。这些标准是威胁优先级、目标类别和平台-物体的几何形状。使用威胁优先级的排序仅适用于灵活的萨姆和灵活的指挥官规则集，并将物体的权重设置为用户指定的权重减去其在平台排序的威胁列表中的位置。例如，如果威胁优先权的权重设置为100，那么威胁列表中优先级最高的物体的权重将为100，列表中的下一个物体的权重为99。

If a target meets one or more of these criteria, the weights will be added to achieve a final weight for the object. For example, if the class of scripted target that was originally weighted as 100 is specified on the Target Classes list with a weight of 10, the weight of the scripted target becomes 110. If the scripted target is also within a designated platform-object geometry with an associated weight of 25, the total weight for that scripted target will be 135.

如果一个目标符合这些标准中的一个或多个，那么权重将被加上，以实现该对象的最终权重。例如，如果最初加权为100的脚本目标的类别在目标类别列表中被指定为10的权重，那么脚本目标的权重就变成110。如果该脚本目标也在一个指定的平台-物体几何形状内，其相关重量为25，则该脚本目标的总重量将为135。

Once the weight for every object has been computed and the list of objects has been sorted by weight, the grouping constraints are checked. If any of the grouping constraints are selected, the individual candidates are grouped using the selected constraints. The grouping is accomplished by selecting the first candidate in the sorted list that is not already in a group and assigning it the first available group number beginning with 1. Next, each candidate in the sorted list that has not already been assigned a group number is evaluated to determine if it falls within the user-specified constraints. If it does, its group id is assigned to the current group number. If it does not, an action along with the computed value for the constraint can be seen in the User Rule History and the Failure Log Report in Report Generation. The sorted list is evaluated until all candidates have been assigned to a group. The list of members for each group of objects is logged for use by Report Generation, e.g. the User Rule History report.

一旦每个对象的权重被计算出来，并且对象列表被按权重排序，就会检查分组约束。如果选择了任何一个分组约束，则使用所选的约束对各个候选者进行分组。分组是通过选择排序列表中第一个尚未在一个组中的候选者，并给它分配第一个可用的组号（从1开始）来完成的。 接下来，排序列表中每个尚未被分配组号的候选者都被评估，以确定它是否属于用户指定的约束条件。如果是，它的组号就会被分配给当前的组号。如果不在，则可以在用户规则历史和报告生成中的失败日志报告中看到一个动作以及约束条件的计算值。排序的列表被评估，直到所有的候选人都被分配到一个组。每组对象的成员列表被记录下来供报告生成使用，例如用户规则历史报告。

The available constraints for grouping are angle, range, speed, azimuth, and elevation. All constraints are evaluated relative to the highest weighted object’s position and velocity. All of the constraints are designed to measure proximity of targets. The azimuth and elevation constraints are particularly relevant for evaluating the potential of targets falling within the field of view of a sensor.

The range constraint is slant range between the highest weighted object in the group and each member of the group.

范围约束是指组中权重最高的对象与组中每个成员之间的倾斜范围。

yyx= Position of the group candidate.

yyx= 小组候选人的位置。

The grouping angle constraint limits a group to those candidates generally going in the same direction by comparing the angle between the candidates velocity vector to the specified grouping angle threshold

分组角度约束通过比较候选者速度矢量与指定分组角度阈值之间的角度，将一组限制在那些通常朝向相同方向的候选者上。

yyx

yyx

The grouping speed constraint prevents grouping objects with vastly different speeds; thus, a high potential for separatio

分组速度的限制阻止了对速度相差悬殊的物体进行分组；因此，分离的可能性很大。

The azimuth constraint allows grouping of objects that are within the specified azimuth limit of the highest weighted object. An example usage of this constraint would be to limit the group to objects within the azimuth field of view of a sensor. The azimuth calculation is based on a coordinate system formed with the y-axis aligned from the evaluating platform to the highest weighted object, the x- axis in the horizontal plane, and the z-axis orthogonal to the XY-plane. The ECEF2BodyMatrix function, described in Appendix B.10, creates the rotation matrix RotBody. The evaluating platform’s position is used as the origin. The difference vector between the highest weighted object and the evaluating platform’s position is used as the velocity input into ECEF2BodyMatrix. The candidate’s position is then rotated into this local coordinate system.

方位角约束允许对处于最高权重物体的指定方位角限制内的物体进行分组。这个约束的一个例子是将分组限制在一个传感器的方位角视场内的物体。方位角的计算是基于一个坐标系，该坐标系的Y轴从评估平台到最高权重物体对齐，X轴在水平面上，Z轴与XY面正交。附录B.10中描述的ECEF2BodyMatrix函数，创建了旋转矩阵RotBody。评估平台的位置被作为原点。最高权重的物体和评估平台的位置之间的差向量被用作ECEF2BodyMatrix的速度输入。候选人的位置然后被旋转到这个局部坐标系中。

The elevation constraint allows grouping of objects based on the elevation separation of the object from the high priority object. This constraint is computed from the components of yyx as defined for the azimuth computation.

仰角约束允许根据物体与高优先级物体的仰角间隔对物体进行分组。这个约束是根据方位角计算中定义的yyx的分量计算出来的。

The individual candidates are evaluated in descending order of weight, until the first candidate is found which satisfies platform-object geometry conditions. If grouping options are selected, the groups are evaluated in descending order of weight where the group weight is defined as the highest weighted candidate within the group. If the option to evaluate centroids is selected, the first group whose centroid satisfies the geometry volume is designated. If grouping without evaluating the centroid, each object within a group is evaluated and if any object within the group satisfies the geometry volume the highest weighted candidate within the group is designated.

各个候选者按权重降序进行评估，直到找到满足平台-物体几何条件的第一个候选者。如果选择了分组选项，则按权重降序评估各组，其中组的权重被定义为该组中权重最高的候选者。如果选择评估中心点的选项，则指定中心点满足几何体的第一个组。如果不评估中心点而进行分组，则评估组内的每个对象，如果组内有任何对象满足几何体积，则指定组内权重最高的候选者。

If a valid object or group of objects is found, the User Rules phase is executed to determine if there is a trigger for the platform- object geometry for that object. If the platform-object geometry pair is found as a trigger and the trigger has been met then the associated User Rules response is scheduled to execute. The object or group of objects designated during the geometry evaluation is used in the User Rules phase response when the responses are relative to a target. If evaluating individual candidates and using grouping then the group of objects associated with the designated object is used for the response. If the User Rule response only uses one object then the highest weighted object in the group is used for the response. The designated object or group of objects found during the geometry evaluation can be seen in the User Rule History report in Report Generation.

如果发现一个有效的对象或对象组，则执行用户规则阶段，以确定该对象的平台-对象几何形状是否有触发器。如果发现平台-物体几何对是一个触发器，并且触发器已被满足，那么相关的用户规则响应被安排执行。当响应相对于一个目标时，在几何学评估期间指定的对象或对象组被用于用户规则阶段的响应。如果评估单个候选对象并使用分组，那么与指定对象相关的对象组将用于响应。 如果用户规则响应只使用一个对象，那么该组中权重最高的对象被用于响应。在几何学评估中发现的指定对象或对象组可以在报告生成中的用户规则历史报告中看到。

For example, if five scripted targets were evaluated as individual candidates during the platform-object geometry check, the scripted target with the highest priority would be sent to the User Rules phase. If the response to meeting the platform-object geometry included pointing sensors at a target or initiating a flight option relative to a target, the scripted target would be used for these options.

例如，如果在平台-物体几何检查期间，有五个脚本目标被评估为单独的候选目标，具有最高优先级的脚本目标将被发送到用户规则阶段。如果满足平台-物体几何学的反应包括将传感器指向目标或启动相对于目标的飞行选项，脚本目标将被用于这些选项。

If a platform has multiple volume triggers defined, they are all checked to determine if they have just been turned on or if their repeat time has elapsed. For those volumes that have met one of these two conditions, their targets are sorted in accordance with the weights defined on the Object Category definition. Each target (or group centroid, if selected) is evaluated to determine if it is within the geometry volume of the trigger.

如果一个平台定义了多个卷的触发器，它们都会被检查，以确定它们是否刚刚被打开，或者它们的重复时间是否已经过了。对于那些满足这两个条件之一的卷，它们的目标会根据对象类别定义的权重进行排序。每个目标（或组中心点，如果选择的话）被评估以确定它是否在触发器的几何体积内。

The calculations for platform-object geometries are described in Appendix B9.

附录B9中描述了平台-物体几何形状的计算方法。

## 4.12.1.7 ASM/Host Separation Trigger

4.12.1.7 ASMHost分离触发器

The Flexible SAM and Commander can react to the recognition that an ARM or other ASM has separated from the host, or launching platform. For this reaction, the launching platform (AGAttacker ruleset) schedules the reactions of all Flexible SAM and Commander platforms within a user-specified azimuth and range from location of launch. The user can specify a probability of the SAM recognizing the separation, and the probability determines whether a reaction will occur. The user can specify a default probability for all ASM launches, or can specify probability based on the type of system launching the ASM.

灵活防空导弹和指挥官可以对ARM或其他ASM脱离主机或发射平台的识别作出反应。对于这种反应，发射平台（AGAttacker规则集）安排所有灵活防空导弹和指挥官平台在用户指定的方位角和发射地点的范围内进行反应。用户可以指定防空导弹识别分离的概率，该概率决定了是否会发生反应。用户可以为所有反坦克导弹的发射指定一个默认概率，也可以根据发射反坦克导弹的系统类型指定概率。

If the platform is able to react to the ASM launch, the User Rules phase is scheduled to execute at its start time. This allows the reacting platform an opportunity to gain track on explicitly flown missiles.

如果平台能够对ASM的发射作出反应，用户规则阶段就被安排在其开始时间执行。这使作出反应的平台有机会获得对明确飞行的导弹的跟踪。

If the AGAttacker launches an explicitly flown ARM or cruise missile, the reacting platform must have track on both the AGAttacker and the missile in order to react. This reaction represents the recognition of the missile separating from the launcher. Additionally, the probability of recognition is applied. For implicitly flown missiles, track is only required on the launching AGAttacker, and the probability of recognition is used to determine if reaction will occur. If randomness has been eliminated, the ARM recognition will always pass the probability of recognition evaluation.

如果AGAttacker发射了一枚明确飞行的ARM或巡航导弹，反应平台必须对AGAttacker和导弹都有追踪，以便作出反应。这种反应代表了对导弹从发射器上分离的识别。此外，识别的概率也被应用。 对于隐性飞行的导弹，只需要对发射的AGAttacker进行跟踪，并使用识别概率来确定是否会发生反应。如果消除了随机性，ARM识别将始终通过识别概率评估。

## 4.12.1.8 ARM Classification Trigger

4.12.1.8 ARM分类触发器

Tracks can be classified as ARMs by Flexible SAMs and Flexible Commanders during their threat-assessment process. Once a target is classified as an ARM, the User Rules phase is scheduled to determine the response to the ARM. The User Rules phase is scheduled from the threat assessment routines and is scheduled to execute immediately.

在威胁评估过程中，灵活的防空系统和灵活的指挥官可以将轨迹归类为ARMs。一旦目标被归类为ARM，将安排用户规则阶段，以确定对ARM的反应。用户规则阶段是根据威胁评估程序安排的，并被安排为立即执行。

## 4.12.1.9 ARM Alert Message Received and Alert Timeout

4.12.1.9 收到的ARM警报信息和警报超时

During User Rules responses, ARM alerts can be optionally forwarded over the reacting platform's command links. This allows other platforms to react to the incoming ARM. Upon receiving an ARM alert from another member of the command chain, the User Rules phase is scheduled immediately for the reacting platform. The ARM alert remains a valid trigger for subsequent executions of the User Rules phase until the user-specified alert timeout has been reached.

在用户规则响应期间，ARM警报可以选择通过反应平台的指令链接转发。这使得其他平台能够对传入的ARM做出反应。从指挥链的另一个成员处收到ARM警报后，立即为反应平台安排用户规则阶段。ARM警报仍然是用户规则阶段后续执行的有效触发器，直到达到用户指定的警报超时。

## 4.12.1.10 ARM Threat and ARM Time to Impact

4.12.1.10 ARM的威胁和ARM的影响时间

Flexible SAMs and Flexible Commanders can assess a threat against ARMs. Once an ARM threat has been assessed, the User Rules phase is scheduled immediately to determine the assessing platform's reaction. The threat status of the ARM is reevaluated every execution of the target-select phase. For each execution of the target-select phase that determines the ARM is a threat, the User Rules phase is scheduled.

灵活的防空导弹和灵活的指挥员可以评估对ARM的威胁。一旦评估了ARM威胁，立即安排用户规则阶段，以确定评估平台的反应。每次执行目标选择阶段，都会重新评估ARM的威胁状态。对于目标选择阶段的每一次执行，如果确定ARM是一种威胁，则安排用户规则阶段。

If the ARM time-to-impact trigger is selected, the computed ARM time to impact must be less than the user-specified impact time in order to meet the trigger conditions. If the computed impact time for the ARM is not within the specified time, no reaction occurs.

如果选择了ARM的撞击时间触发，计算出的ARM的撞击时间必须小于用户指定的撞击时间，以满足触发条件。如果计算出的ARM的撞击时间不在指定时间内，则不发生反应。

## 4.12.1.11 Target Threat Declaration

4.12.1.11 目标威胁声明

When the Flexible SAM or Commander determines that a target is a threat and the threat-declaration trigger is selected, the User Rules phase is executed to determine the appropriate response. This trigger is intended to be used as a way of cueing the weapons control radar. The threat-declaration trigger is valid only for the initial threat determination.

当灵活防空系统或指挥官确定一个目标是一个威胁并选择了威胁声明触发器时，用户规则阶段被执行以确定适当的反应。该触发器旨在作为提示武器控制雷达的一种方式。威胁声明触发器只对最初的威胁判断有效。

## 4.12.1.12 Target Illumination Initiated

4.12.1.12 启动目标照明

When the Flexible SAM launches on a hostile target with a weapon that requires illumination and the target-illumination trigger is selected, the User Rules phase is executed to determine a response, if any. This response is intended to be used as a way of modeling the distinct waveform used when a target is being illuminated.

当灵活防空导弹用需要照明的武器向敌对目标发射，并且选择了目标照明触发器时，将执行用户规则阶段以确定反应，如果有的话。该反应旨在作为目标被照亮时使用的独特波形的建模方式。

## 4.12.1.13 Jammer Detection/Alert

4.12.1.13干扰器检测警报

The User Rules phase can operate in response to being jammed. Jamming is indicated either by a detection of a platform with an emitter or by receiving a jamming alert message. For both of these events, the User Rules phase is scheduled to execute immediately to determine the reacting platform's response. The User Rules Phase also has the ability to respond to the loss of a jamming strobe. If the jamming environment trigger is selected and the status indicator is No, the loss of a jamming strobe causes the execution of the User Rules phase. An appropriate response for this situation would be to have the SAM search sensor use its normal waveform instead of its burnthrough waveform.

用户规则阶段可以对被干扰的情况进行操作。干扰的标志是检测到有发射器的平台或收到干扰警报信息。对于这两个事件，用户规则阶段被安排立即执行，以确定反应平台的反应。用户规则阶段也有能力对干扰频闪的丢失作出反应。如果选择了干扰环境触发器，且状态指示器为 "否"，则干扰频闪的丢失会导致用户规则阶段的执行。对这种情况的适当反应是让萨姆搜索传感器使用其正常波形，而不是其穿透波形。

The jamming trigger indicates that the reacting platform has detected jammer emitters on at least one threat. The jamming determination is made by the local or remote detection of jamming strobes by a passive sensor.

干扰触发器表明，反应平台在至少一个威胁上检测到了干扰发射器。干扰判断是通过无源传感器对干扰频闪的本地或远程检测来进行的。

## 4.12.1.14 Aborted Mission

4.12.1.14 中止任务

This trigger can be evaluated only by Fighters and AGAttackers. For these ruleset types, this trigger is satisfied if the flight has been issued a command to stop its current assignment. This trigger also is satisfied if the flight is on a commanded assignment, has reached its predicted intercept point, and cannot engage its remaining targets.

这个触发器只能由战斗机和AGA攻击机评估。对于这些规则集类型，如果飞行被发出停止当前任务的命令，则满足该触发条件。如果该航班正在执行指令性任务，已经到达预测的拦截点，并且不能与剩余目标交战，也会满足该触发条件。

## 4.12.1.15 Completed Mission

4.12.1.15 完成任务

This trigger can be evaluated only by Fighters, AGAttackers, Fighter Bombers, Bombers, and Wild Weasels. It can be satisfied in three ways. First, this trigger is satisfied if all scripted targets have been engaged. Second, it is satisfied if the flight has finished its commanded assignment and the flight leader sends a command complete message to its commander. Finally, this trigger is satisfied if the flight is on a commanded assignment, has reached its predicted intercept point, and has already engaged all of its targets.

这个触发器只能由战斗机、AGA攻击机、战斗机轰炸机、轰炸机和野生黄鼠狼评估。它可以通过三种方式被满足。首先，如果所有的脚本目标都已被击中，则满足该触发条件。其次，如果航班已经完成了它的指令任务，并且航班长向其指挥官发送了指令完成信息，则满足该条件。最后，如果该航班正在执行指令任务，已经到达预测的拦截点，并且已经与所有的目标交战，则满足该触发条件。

## 4.12.1.16 Low Fuel

4.12.1.16 低燃料

The Low Fuel trigger may be evaluated based on the current fuel weight remaining on the aircraft or relative to the amount of fuel that will be left on the aircraft when it completes a return to base response. The Bingo Limit option uses the RTB Fuel Bingo Limit specified for the airframe to determine when the Low Fuel trigger is met, independent of the response associated with the trigger. The fuel level is evaluated at every scenario interval in Flight Processing. The Bingo Limit trigger is satisfied when a flight member is at or under its return to base fuel weight. The return to base fuel weight is calculated by adding the RTB fuel bingo limit to the aircraft's empty fuel weight; both parameters are specified on the Airframe Definition window.

低油量触发可以根据飞机上当前剩余的油量或相对于飞机完成返回基地响应时剩余的油量进行评估。宾果极限选项使用为机体指定的RTB燃油宾果极限来确定何时满足低燃油触发，与触发相关的响应无关。燃料水平在飞行处理中的每个场景间隔都会被评估。当飞行成员达到或低于其返回基地的燃油重量时，就满足宾果极限的触发。返回基地的燃油重量是通过将RTB燃油宾果限制与飞机的空燃油重量相加来计算的；这两个参数都是在机体定义窗口中指定的。

The RTB fuel weight comparison is as follows:

RTB的燃料重量比较如下。

yyxyyx

yyxyyx

The Fuel Reserve option evaluates not only the current fuel weight of the aircraft, but also the estimated amount of fuel that will be left on the aircraft when it completes the associated RTB response. This allows a more dynamic RTB fuel limit evaluation, such as allowing aircraft that are closer to base to remain in the air longer than those that must travel farther to reach their designated base. The Fuel Reserve trigger can only be evaluated if the associated response has a fuel reserve specified and has either Home Base or Closest Airbase as its destination.

燃油储备选项不仅评估了飞机当前的燃油重量，还评估了当飞机完成相关的RTB响应时，飞机上剩余的估计燃油量。这允许一个更动态的RTB燃料限制评估，例如允许离基地较近的飞机比那些必须走得更远才能到达指定基地的飞机在空中停留更长时间。燃油储备触发器只有在相关响应指定了燃油储备，并将原基地或最近的空军基地作为其目的地时才能被评估。

The Fuel Reserve trigger evaluation is scheduled on a sliding basis, with the estimation performed more frequently as the aircraft approaches the specified limit. The return to base fuel weight is determined by estimating the fuel expended in flying the aircraft to the airbase specified in the associated response using the specified flight option. If the destination is Closest Airbase, the expended fuel is calculated relative to the airbase closest to the aircraft at the time of the evaluation. If the estimated fuel remaining is less than the specified fuel reserve percentage of the airframe’s original fuel weight, the trigger has been met. Otherwise, the expected flight time remaining to reach the RTB fuel limit is calculated, and the time to check the fuel level is rescheduled for the minimum of half of the remaining time, the scenario interval, or ten minutes.

燃油储备触发评估是以滑动的方式安排的，当飞机接近规定的极限时，评估会更频繁地进行。返回基地的燃油重量是通过估算飞机使用指定的飞行选项飞往相关回复中指定的空军基地时消耗的燃油来确定的。如果目的地是最近的空军基地，消耗的燃油是相对于评估时离飞机最近的空军基地计算的。如果估计的剩余燃油量小于机体原始燃油重量的指定燃油储备百分比，则满足触发条件。否则，将计算达到RTB油量限制的预期剩余飞行时间，并将检查油量的时间重新安排在剩余时间的一半、情景间隔或10分钟的最小值。

# 4.12.2 User Rules Status Conditions

4.12.2 用户规则状态条件

Responses of platforms depend on the state of the platform. For example, if an ARM is currently threatening a platform, the desired response may be to engage the ARM. If the reacting platform cannot engage the ARM, then the user may prefer to have the reacting platform turn off its emitters and deploy decoys. To tailor the responses to account for the state of the reacting platform, several categories of status conditions are available.

平台的反应取决于平台的状态。例如，如果一个ARM目前正在威胁一个平台，所希望的反应可能是与ARM交战。如果作出反应的平台不能与ARM交战，那么用户可能更愿意让作出反应的平台关闭其发射器并部署诱饵。为了根据反应平台的状态调整反应，有几类状态条件可用。

## 4.12.2.1 Platform Status Conditions

4.12.2.1 平台状态条件

The Platform Status conditions are:

平台状态的条件是。

•                EMCON Authority

- EMCON机构

•                Jamming Environment

- 干扰环境

•                Moving

- 搬家

•                Standby Mode

- 待机模式

•                Flight Leader

- 飞行领袖

The EMCON authority status option allows the User Rules phase to initiate reactions during changes in a platform's EMCON authority status. EMCON authority can be designated at the ruleset and can be overridden at the platform level. Only one EMCON authority should exist in a command chain. The EMCON authority will have commanded control of sensors beneath the EMCON authority's level of command.

EMCON权限状态选项允许用户规则阶段在平台的EMCON权限状态变化时启动反应。EMCON权限可以在规则集中指定，也可以在平台层面上被覆盖。一个指挥链中只能有一个EMCON权限。EMCON机构将对EMCON机构的指挥级别以下的传感器进行指挥控制。

The Jamming Environment status condition indicates the presence or absence of jamming strobes. The Moving status condition indicates that the platform is currently moving. Standby indicates that the platform is currently in standby mode.

干扰环境状态条件表示存在或不存在干扰闪光灯。移动状态条件表示平台目前正在移动。待机表示平台目前处于待机状态。

The Flight Leader status condition indicates that the platform evaluating its trigger conditions is currently serving as flight leader.

飞行领队状态条件表示评估其触发条件的平台目前正担任飞行领队。

## 4.12.2.2 Phase Status Conditions

4.12.2.2 相位状态条件

The phase status trigger includes options for indicating the phase the platform is currently executing. The Phase Status conditions are:

阶段状态触发器包括指示平台当前正在执行的阶段的选项。阶段状态的条件是：。

•                Target Select

- 目标选择

•                Vector

- 矢量

•                Engage

- 参与

•                Lock

- 锁定

•                Launch

- 启动

A separate type of status condition, i.e. Named Status, can be used to indicate when a platform is maneuvering. The Named Status capability is discussed in a later section.

一种单独的状态条件，即命名状态，可用于指示一个平台何时在进行机动。命名状态的能力将在后面的章节中讨论。

## 4.12.2.3 Mission Status Conditions

4.12.2.3 任务状态条件

The Flight Status conditions are:

飞行状态的条件是。

•                Flight Size

- 飞行尺寸

•                Below Fuel Bingo Limit

- 低于燃料宾果限额

•                Below Fuel Reserve

- 低于燃料储备

•                Scrambled From Base

- 基地炒货

•                Targets on List

- 名单上的目标

•                Reached Max Shots Per CAP

- 达到每个CAP的最大投篮次数

•                Exceeded MissionTime

- 超出任务时间

The Flight Size status condition gives a threshold flight size. For example, a flight might utilize a particular sensor configuration or might return to base when it reaches the designated threshold.

飞行规模状态条件给出了一个阈值飞行规模。例如，一个飞行可能利用一个特定的传感器配置，或者当它达到指定的阈值时，可能返回基地。

The Below Fuel Bingo Limit status condition indicates that the platform is low on fuel. The computations for when a platform is low on fuel are described in the trigger for Low on Fuel. For example, when an aircraft's interceptors have reached their targets and the platform is low on fuel, the response might be to select a flight option to send the aircraft to its home base.

Below Fuel Bingo Limit状态条件表明，平台的燃料不足。平台燃料不足时的计算方法在燃料不足的触发中有所描述。例如，当一架飞机的拦截器已经到达它们的目标，而平台的燃料不足时，反应可能是选择一个飞行选项，将飞机送回它的本垒。

The Below Fuel Reserve status condition evaluates not only the current fuel weight of the aircraft, but also the estimated amount of fuel that will be left on the aircraft when it completes the associated RTB response. The Below Fuel Reserve status condition can only be evaluated if the associated response has a fuel reserve specified and has either Home Base or Closest Airbase as its destination.

低于燃油储备状态条件不仅评估飞机当前的燃油重量，而且评估当飞机完成相关的RTB响应时将留在飞机上的估计燃油量。只有当相关的响应指定了燃油储备，并将原基地或最近的空军基地作为其目的地时，才能评估低于燃油储备的状态条件。

Otherwise, the Below Fuel Reserve status will never be met. The return to base fuel weight is determined by estimating the fuel expended in flying the aircraft to the airbase specified in the associated response using the specified flight option. If the destination is Closest Airbase, the expended fuel is calculated relative to the airbase closest to the aircraft at the time of the evaluation. If the estimated fuel remaining is less than the specified fuel reserve percentage of the airframe’s original fuel weight, the status condition has been met.

否则，低于燃油储备的状态将永远不会被满足。返回基地的燃油重量是通过估算飞机使用指定的飞行选项飞往相关回复中指定的空军基地时消耗的燃油来确定的。如果目的地是最近的空军基地，消耗的燃油是相对于评估时离飞机最近的空军基地计算的。如果估计的剩余燃油量小于机身原始燃油重量的指定燃油储备百分比，则状态条件已满足。

The Scrambled From Base status condition is satisfied if the flight was scrambled from an air base. Flights can be commanded to scramble or can be scripted to take off at a specific scenario time. In either case, once the flight has completed its mission, this status condition is cleared until the flight lands at base and takes off again.

如果该航班是从一个空军基地加注的，则满足从基地加注的状态条件。飞行可以被命令加注，也可以通过脚本在特定场景时间起飞。无论哪种情况，一旦航班完成任务，这个状态条件就会被清除，直到航班降落在基地并再次起飞。

The Targets on List status condition is a method of defining that the platform still has mission or commanded targets on its target list. This allows the user to define differing responses for engagement completion, based on whether the platform still has targets on its target list.

列表中的目标状态条件是定义平台在其目标列表中仍有任务或指令目标的一种方法。这使用户能够根据平台是否在其目标清单上仍有目标，为交战完成定义不同的反应。

The Reached Max Shots Per CAP status condition is satisfied when the flight has shot the maximum number of weapons allowed by the Max Shots Per CAP parameter. The Max Shots Per CAP parameter is specified on the flight leader's Target Select Phase window. This status condition is only used by the Fighter ruleset type.

当飞行达到每CAP最大射击次数参数所允许的最大武器数量时，达到每CAP最大射击次数状态条件。每个CAP的最大发弹量参数是在领队的目标选择阶段窗口中指定的。这个状态条件只在战斗机规则集类型中使用。

The Exceeded Mission Time status condition is satisfied when a flight has exceeded its mission time. There are two main types of mission times. The first is known as the RTB Time and is a scenario time at which a flight is scripted to return to base. The RTB Time is specified on the flight leader's Edit Platform window. The second mission time is called the Max Mission Time and only applies to Fighter flights. The Max Mission Time is measured relative to the time at which a flight activates or scrambles from base. If the flight has been assigned from a CAP, it is measured relative to the time at which the CAP was initiated. The Max Mission Time is specified on the flight leader's Target Select Phase window.

当一个航班超过其任务时间时，超过任务时间的状态条件被满足。任务时间有两种主要类型。第一种被称为RTB时间，是一个场景时间，在这个时间里，飞行被脚本化地返回到基地。RTB时间是在飞行领队的编辑平台窗口中指定的。第二个任务时间被称为最大任务时间，只适用于战斗机飞行。最大任务时间是相对于飞行激活或从基地起飞的时间而言的。如果飞行是由CAP分配的，它是相对于CAP启动的时间测量的。最大任务时间是在飞行领队的目标选择阶段窗口中指定的。

A third and final mission time is also known as a CAP deactivation time. If a flight is on a CAP, reaches its end pattern waypoint, and the waypoint off-time is less than the current scenario time, then the Exceeded Mission Time trigger will be satisfied. In this case, the Exceeded Mission Time trigger is evaluated whenever the flight reaches its end pattern waypoint in Flight Processing.

第三个也是最后一个任务时间，也被称为CAP停用时间。如果一个航班处于CAP状态，到达其结束模式的航点，并且航点关闭时间小于当前情景时间，那么将满足超过任务时间的触发。在这种情况下，只要航班在飞行处理中到达其结束模式的航点，就会评估超过任务时间的触发。

## 4.12.2.4 Engagement Status Conditions

4.12.2.4 交战状态条件

The Engagement Status conditions are:

交战状态的条件是：。

•                Lock on Target

- 锁定目标

•                Interceptors Requiring Guidance in Flight

- 需要在飞行中进行引导的拦截器

•                Interceptor to ARM in Flight

- 拦截器到飞行中的ARM

•                Intercepts Complete

- 拦截完成

•                TBM Threat

- TBM的威胁

•                Interceptor Available

- 可用的拦截器

•                Authorized Tracks

- 授权的轨道

•                Assigned Tracks

- 分配的轨道

•                Threatening Tracks

- 威胁的轨迹

The Lock on Target status condition indicates that the platform evaluating its status is currently locked on a target. This condition allows the user to define responses for when a platform is locked on a target and when it is not locked on a target. For example, the user may not want to shut down sensors if they are being used to track an engagement.

锁定目标状态条件表明，评估其状态的平台目前被锁定在一个目标上。该条件允许用户定义当平台被锁定在目标上和未锁定在目标上时的响应。例如，如果传感器被用于跟踪交战，用户可能不希望关闭传感器。

The Interceptors Requiring Guidance in Flight status condition indicates that the platform evaluating its status currently has interceptors in the air to targets that require guidance.

飞行中需要制导的拦截器状态表示评估其状态的平台目前有拦截器在空中对需要制导的目标。

The Interceptor to ARM in Flight status condition indicates that the platform currently evaluating its triggers has interceptors in the air to an ARM target.

拦截器到ARM的飞行状态条件表明，目前正在评估其触发器的平台有拦截器在空中向ARM目标飞行。

The Intercepts Complete status condition is satisfied if the flight does not have any weapons in the air which require guidance. An example use of this status condition is for aircraft when determining if the aircraft has completed its mission and should return to base. Weapons that do not require guidance are smart weapons, weapons with active guidance, and free fall bombs.

如果该航班在空中没有任何需要引导的武器，则满足拦截完成状态条件。这个状态条件的一个例子是在确定飞机是否已经完成任务并应返回基地时使用。不需要制导的武器是智能武器、有主动制导的武器和自由落体炸弹。

The TBM Threat status condition indicates that the platform evaluating its trigger conditions is currently threatened by a TM target.

TBM威胁状态条件表明，评估其触发条件的平台目前受到TM目标的威胁。

The Interceptors Available status condition indicates whether the platform can engage the threat or has subordinates available to engage the threat. In the case where no interceptors are available, the only reaction this platform has is through the User Rules phase; and in the case of an ARM alert, an appropriate reaction might be to shut down all emitters to protect the platform.

拦截器可用状态条件表明该平台是否可以与威胁交战，或者是否有下属可以与威胁交战。在没有拦截器可用的情况下，该平台的唯一反应是通过用户规则阶段；而在ARM警报的情况下，适当的反应可能是关闭所有发射器以保护该平台。

The Authorized Tracks status condition indicates that the platform currently evaluating its trigger conditions has tracks authorized for engagement in its trackfile. An authorized track is any track that the platform is capable of engaging based on the ruleset options. For the Flexible SAM and Flexible Commander rulesets, the track will be evaluated to determine if the target type is authorized for engagement under the current operational mode for self defense, asset defense, or zone defense without a determination of whether the track is currently a threat to self, a specific asset, or a specific zone.

授权轨道状态条件表明，目前正在评估其触发条件的平台在其轨道文件中拥有授权参与的轨道。授权轨道是指平台根据规则集选项能够参与的任何轨道。对于灵活防空导弹和灵活指挥官规则集，将评估轨道以确定目标类型是否在当前自卫、资产防御或区域防御的作战模式下被授权交战，而不确定该轨道目前是否对自身、特定资产或特定区域构成威胁。

The Assigned Tracks status condition indicates that the platform currently evaluating its trigger conditions has tracks assigned by its commander in its trackfile.

已分配轨道的状态条件表明，目前正在评估其触发条件的平台在其轨道文件中拥有由其指挥官分配的轨道。

The Threatening Tracks status condition indicates that the platform currently evaluating its status has threatening tracks in its trackfile. The Threatening Track status is only available for Flexible SAM and Flexible Commander rulesets and is considered any track that threatens the platform, any of its assets that are to be defended according to the current operational mode of the platform, or any associated zone if zone defense is selected on the current operational mode.

威胁轨道状态条件表明，目前正在评估其状态的平台在其轨道文件中存在威胁性轨道。威胁轨道状态仅适用于 "灵活防空导弹 "和 "灵活指挥官 "规则集，它被认为是威胁到平台的任何轨道，以及根据平台当前作战模式要进行防御的任何资产，或任何相关区域（如果在当前作战模式上选择了区域防御）。

## 4.12.2.5 Named Status Condition

4.12.2.5 命名的状态条件

Named Status allows a user-defined status condition to be part of the trigger requirements. The Named Status conditions will be created as part of the response definition. The definition can be a string of up to 25 characters. An example would be a fighter initiating a defensive maneuver. The status condition might be FIGHTER\_MANEUVER. In evaluating subsequent trigger events, the Fighter might respond differently based on whether or not the FIGHTER\_MANEUVER status condition is set. If the trigger event was that the fighter was now within a specified distance of a commanded target, the response might be to point its sensors at the commanded target. However, the steering of the sensors might not be desired when the fighter is currently reacting to another platform.

命名状态允许用户定义的状态条件成为触发要求的一部分。命名状态条件将作为响应定义的一部分被创建。定义可以是一个最多 25 个字符的字符串。一个例子是一个战斗机启动了一个防御演习。状态条件可能是FIGHTER\_MANEUVER。在评估随后的触发事件时，战斗机可能会根据FIGHTER\_MANEUVER状态条件是否被设置而做出不同的反应。如果触发事件是战斗机现在在离一个指令目标的指定距离内，反应可能是将其传感器指向指令目标。 然而，当战斗机目前正在对另一个平台作出反应时，传感器的转向可能并不理想。

## 4.12.2.6 Platform-Object Geometry Status Condition

4.12.2.6 平台-物体的几何状态条件

Platform-object geometry checks can be used as both a trigger and status conditions. As a status condition, the volume is only evaluated once the main trigger condition has been satisfied. The use of Platform-object geometries are detailed in the platform-object geometry trigger section of this document.

平台-物体的几何检查可以作为触发条件和状态条件使用。作为一个状态条件，只有在主要的触发条件得到满足后才会对体积进行评估。平台-物体几何学的使用详见本文件的平台-物体几何学触发部分。

## 4.12.2.7 Weapon/System Status Condition

4.12.2.7 武器系统状态条件

The weapon/system status category will have a list of status conditions for weapon dependency. This allows the selection of a response based on the type of weapon being launched. This status will only be valid during sequences where a weapon has been selected for launch. The condition is satisfied if any of the weapons on the status list are being used for a launch. If a launch is neither pending nor in progress or else no weapon is found for a given launch, the status check fails. Both standard weapons and captive platform systems can be specified on the list. An example of using a weapon status condition would be if the platform is now performing a lock action against its target and is using a particular weapon, a corresponding sensor configuration might be adopted by the platform to guide the weapon to intercept.

武器系统状态类别将有一个武器依赖性的状态条件列表。这允许根据正在发射的武器类型来选择响应。这种状态只在选择了武器发射的序列中有效。如果状态列表上的任何武器正在被用于发射，则条件得到满足。如果发射既不是待定的，也不是正在进行的，或者没有找到用于特定发射的武器，则状态检查失败。标准武器和俘虏平台系统都可以在列表中指定。使用武器状态条件的一个例子是，如果平台现在正在对其目标进行锁定行动，并且正在使用一种特定的武器，那么平台可能会采用相应的传感器配置来引导武器进行拦截。

## 4.12.2.8 Target Classes of Interest Status Condition

4.12.2.8 目标利益类别的状态条件

When a trigger event is evaluated using the target classes of interest status condition, the true target class is used to constrain the trigger from being satisfied. Only triggers for platforms whose target’s class is matched in the class list will be satisfied. For example, if the platform is initiating a new local track on a particular target type, a corresponding response could be to enable a sensor with better classification abilities to recognize that target.

当使用感兴趣的目标类状态条件来评估触发器事件时，真正的目标类被用来约束触发器的满足。只有目标的类别在类别列表中被匹配的平台的触发事件才会被满足。例如，如果平台对一个特定的目标类型启动新的本地轨道，相应的反应可能是使具有更好的分类能力的传感器来识别该目标。

## 4.12.2.9 Aircraft Weapon Inventory Status Condition

4.12.2.9 飞机武器库存状况条件

Each time an aircraft expends a weapon, an action for weapon expended occurs. This event can be used as a trigger to check the aircraft weapon inventory. This status condition is satisfied when the flight has depleted its weapon inventory to a user-defined level. The inventory can be filtered so that only certain weapons are counted.

每次飞机消耗武器时，都会发生一个消耗武器的动作。这个事件可以作为一个触发器来检查飞机的武器库存。当航班将其武器库存耗尽到用户定义的水平时，这个状态条件就得到满足。库存可以被过滤，这样就只有某些武器被计算在内。

The weapon inventory filters include weapon count, target type, weapon range, and weapon PK. First, weapon count provides the flight with the ability to decide whether or not it has enough weapons to complete its mission. Second, the flight can use the target type filters to count weapons that are only viable against mission targets. Weapon range also can be used to sift out weapons with less than desirable range against these targets. Finally, weapon PK allows the flight to ignore weapons that are below a certain probability of kill.

武器库存过滤器包括武器数量、目标类型、武器范围和武器PK。首先，武器数量为飞行提供了决定它是否有足够的武器来完成任务的能力。其次，航班可以使用目标类型过滤器来计算那些只对任务目标可行的武器。武器射程也可以用来筛选出对这些目标射程不理想的武器。最后，武器PK允许航班忽略那些低于一定杀伤概率的武器。

## 4.12.2.10 Detected Emitter Status

4.12.2.10 检测到的发射器状态

The detected emitter status constrains a trigger based on the RF emitters detected in the track that is held on the target causing the trigger action. Specific radars, communication devices, and jammers may be selected. Selecting “Any Radar,” “Any ComDev,” or “Any Jammer” indicates that any emitter of the specified type satisfies the status condition.

检测到的发射器状态会根据在导致触发动作的目标上保持的轨道中检测到的射频发射器来制约触发。可以选择特定的雷达、通信设备和干扰器。选择 "任何雷达"、"任何通信设备 "或 "任何干扰器 "表示指定类型的任何发射器满足状态条件。

The “Yes/No” toggle option associated with the specific emitter or emitter type determines whether the emitter must or must not be detected on the track. The “And” toggle option specifies that all emitter checks must be satisfied, and the “Or” toggle option specifies that any emitter check can be satisfied to satisfy the status condition. If a specific compound sensor is selected as a detected emitter, the individual simple sensors that comprise the compound sensor are evaluated. If any constituent simple sensor is detected, the compound sensor has been detected; otherwise, the multimode radar is not considered as detected.

与特定发射器或发射器类型相关的 "YesNo "切换选项决定了发射器是否必须在轨道上被检测到。And "切换选项指定必须满足所有发射器检查，而 "Or "切换选项指定可以满足任何发射器检查以满足状态条件。如果一个特定的复合传感器被选为检测到的发射器，构成复合传感器的各个简单传感器将被评估。如果任何组成的简单传感器被检测到，则该复合传感器已被检测到；否则，多模式雷达不被视为检测到。

For example, consider the initiation of a specific jamming response only when a SAM’s acquisition radar has been detected but when its fire control radar has not been detected. When a trigger is initiated, the Detected Emitter Status Condition can be established with a “Yes” for the acquisition radar “And” a “No” for the fire control radar. If jamming were to be initiated solely based on detection of the fire control radar, the status condition would simply be set to “Yes” for the fire control radar without an entry for the acquisition radar.

例如，考虑到只有在探测到萨母的采集雷达但未探测到其火控雷达时，才启动特定的干扰响应。当触发时，检测到的发射器状态条件可以用采集雷达的 "是 "和火控雷达的 "否 "来确定。如果仅根据对火控雷达的探测来启动干扰，则状态条件只需将火控雷达设置为 "是"，而不需要对采集雷达进行输入。

Note that many event triggers, e.g., Activated, FenceCheck\_Wp\_Reached, etc., are not associated with a target. If the status condition is applied for those events, the status condition will fail, preventing the trigger’s response from being scheduled. If the event trigger is associated with a target, a check will be made to determine if track is held on the target. If a track exists on the target and all status conditions are satisfied, the response will be scheduled; otherwise the response will not be scheduled.

请注意，许多事件触发器，例如，激活、FenceCheck\_Wp\_Reached等，都没有与目标相关。如果对这些事件应用状态条件，状态条件将失败，阻止触发器的响应被安排。如果事件触发器与一个目标相关联，将进行检查以确定目标上是否有轨道。如果目标上存在轨道，并且所有的状态条件得到满足，响应将被安排；否则响应将不被安排。

## 4.12.2.11 Target Track/Track File Status

4.12.2.11 目标TrackTrack文件状态

The Target Track/Track File Status conditions are:

目标TrackTrack文件状态条件是。

•                Target Track File Status

- 目标跟踪文件状态

•                Target Track Status

- 目标轨道状态

•                Track File Status

- 追踪文件状态

The Target Track File Status constrains a trigger based on whether track held on a target associated with the trigger is found in the Main Track File, the Ground Track File, the Signal Track File, or the NBC Track File. Note from Methodology Manual section 4.6 that a track will be stored in one of the Main, Ground, or NBC track files based on ruleset and track type considerations. A track in the Main or Ground Track File may also be stored in the Signal Track File if a passive RF sensor has detected the track.

目标轨迹文件状态根据与触发有关的目标上的轨迹是否在主轨迹文件、地面轨迹文件、信号轨迹文件或核生化轨迹文件中找到，对触发进行约束。请注意《方法手册》第4.6节，根据规则集和轨道类型的考虑，轨道将被存储在主轨道文件、地面轨道文件或核生化轨道文件中的一个。如果无源射频传感器探测到轨道，主轨道文件或地面轨道文件中的轨道也可能被储存在信号轨道文件中。

The Target Track Status constrains a trigger based on the sensor class or the specific type of sensor that has updated the track. This sensor source information is only available for detections by local sensors. A scroll list allows the user to specify a sensor type or sensor class that was used to update the track. In the “Det” column, the “Yes” option specifies that the selected sensor type or sensor class must have detected the track.

目标轨迹状态根据更新了轨迹的传感器类别或特定类型的传感器来限制触发。该传感器源信息仅适用于本地传感器的探测。通过滚动列表，用户可以指定用于更新轨道的传感器类型或传感器类别。在 "确定 "一栏中，"是 "选项指定所选的传感器类型或传感器类别必须已经探测到该轨道。

The “No” option specifies that the selected sensor type or class must not have detected or must no longer be detecting the track. The “And” toggle option specifies that all sensor checks must be satisfied, and the “Or” toggle option specifies that any sensor check can be satisfied to satisfy the status condition. If a specific compound sensor is selected as a local sensor source, the individual simple sensors that comprise the compound sensor are evaluated. If any constituent simple sensor is detected, the compound sensor has been detected; otherwise, the multimode radar has not been detected.

不 "选项指定所选传感器类型或类别必须没有检测到或必须不再检测到轨道。和 "切换选项指定必须满足所有传感器检查，而 "或 "切换选项指定可以满足任何传感器检查以满足状态条件。如果一个特定的复合传感器被选为本地传感器源，构成复合传感器的各个简单传感器将被评估。如果任何组成的简单传感器被检测到，则该复合传感器已被检测到；否则，多模式雷达未被检测到。

For each track file, the Track File Status constrains a trigger based on the number of tracks stored in that track file that meet a sensor source/track type threshold. The scroll list contains specific sensor types, sensor classes, and track type (e.g., Local Track). For example, if the “Radar” sensor class entry is selected with a count of 5, then at least five tracks in the selected track file must have been updated by radars in order to satisfy the trigger. If the “Local Track” track type entry is selected with a count of 10, then there must be at least ten tracks in the selected track file that have been detected by a local sensor.

对于每个轨道文件，轨道文件状态根据存储在该轨道文件中符合传感器源-轨道类型阈值的轨道数量来约束触发。滚动列表中包含具体的传感器类型、传感器类别和轨迹类型（例如，本地轨迹）。例如，如果 "雷达 "传感器类别条目被选中，计数为5，那么所选轨迹文件中至少要有5条轨迹被雷达更新，才能满足触发条件。如果 "本地轨道 "轨道类型条目被选中，计数为10，那么在选定的轨道文件中必须至少有10个轨道被本地传感器探测到。

An additional option specifies the number of tracks that must be updated by specific sensor types to satisfy the Track File status condition. The “And” toggle option specifies that all counts must be satisfied, and the “Or” toggle option specifies that any count meeting the threshold will satisfy the status condition. If a specific compound sensor is selected as a specific sensor type, detections from the multiple, individual simple sensors that comprise the compound sensor are counted as a single detection from the compound sensor.

一个额外的选项指定了必须由特定传感器类型更新的轨道数量以满足轨道文件状态条件。和 "切换选项指定必须满足所有计数，而 "或 "切换选项指定任何满足阈值的计数将满足状态条件。如果一个特定的复合传感器被选为特定的传感器类型，那么构成复合传感器的多个单独的简单传感器的检测被算作复合传感器的一个检测。

## 4.12.2.12 Probability of Reaction

4.12.2.12 反应的概率

The probability of reaction is the last item evaluated on the trigger. Once all other conditions have been met, a draw is performed to determine if the platform will execute its response. If there is a target associated with the trigger being evaluated, a check will be made to determine if track is currently held on the target. If track is held on the target, the Probability of Reaction In Track value will be used, otherwise, the Probability of Reaction Not In Track value will be used. If randomness has been eliminated, the User Rules response will always pass the probability of reaction.

反应的概率是触发器上最后评估的项目。一旦所有其他条件得到满足，就会进行抽签以确定平台是否会执行其反应。如果有一个与正在评估的触发器相关的目标，将进行检查以确定目标上目前是否有轨道。如果目标上有轨道，将使用轨道内反应概率值，否则，将使用非轨道内反应概率值。如果随机性已被消除，用户规则响应将总是通过反应概率。

For example, if the platform is currently in launch phase and a trigger occurs indicating it is running low on fuel, the platform may decide to not execute any reaction. However, when intercepts have completed and the platform is low on fuel, the platform might now execute the response to return to its home base.

例如，如果平台目前处于发射阶段，而发生的触发显示其燃料不足，平台可能决定不执行任何反应。然而，当拦截完成后，平台的燃料不足时，平台现在可能会执行反应，返回其基地。

# 4.12.3 User Rules Responses

4.12.3 用户规则的响应

Once all conditions for a trigger have been met, the corresponding User Rules response has been triggered and will be initiated. The user can select the timing of when the response should begin. The available responses are as follows:

一旦触发的所有条件得到满足，相应的用户规则响应就被触发，并将被启动。用户可以选择响应开始的时间。可用的响应如下。

·       Activation of Emitter Decoys

- 发射器诱饵的激活

·       Activation of Towed Decoys

- 激活拖曳式诱饵

·       Local and Formation-Based Sensor Control

- 基于本地和编队的传感器控制

·       Commanded Sensor Control

- 命令式传感器控制

·       Local Communications Device Control

- 本地通信设备控制

·       Local Jammer Control

- 本地干扰器控制

·       Network Performance Adjustment

- 网络性能调整

·       Target Select Phase Control

- 目标选择相位控制

·       Jamming Priorities

- 干扰的优先次序

·       Emitter Cycle Time

- 发射器周期时间

·       RCS Transition

- RCS过渡期

·       MOPP Transition

- MOPP过渡期

·       Change EMCON Authority Status

- 改变EMCON授权状态

·       Platform-Object Geometry Checks

- 平台-对象的几何检查

·       Generate ARM Alert

- 产生ARM警报