



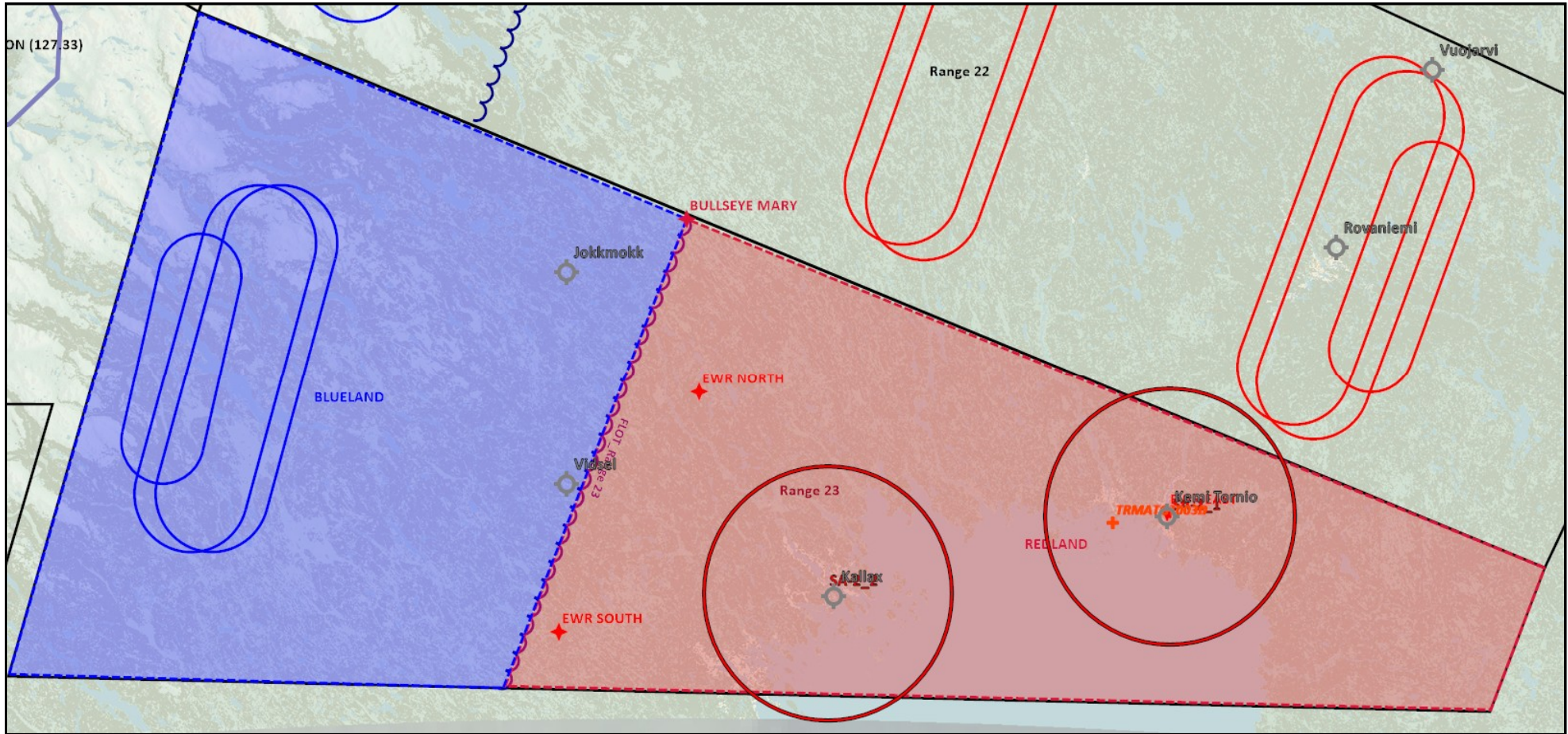
132nd Virtual Wing

EXERCISE RED THUNDER - A  
Strike+SEAD+Escort  
Range 23



132nd Virtual Wing

# SITUATION

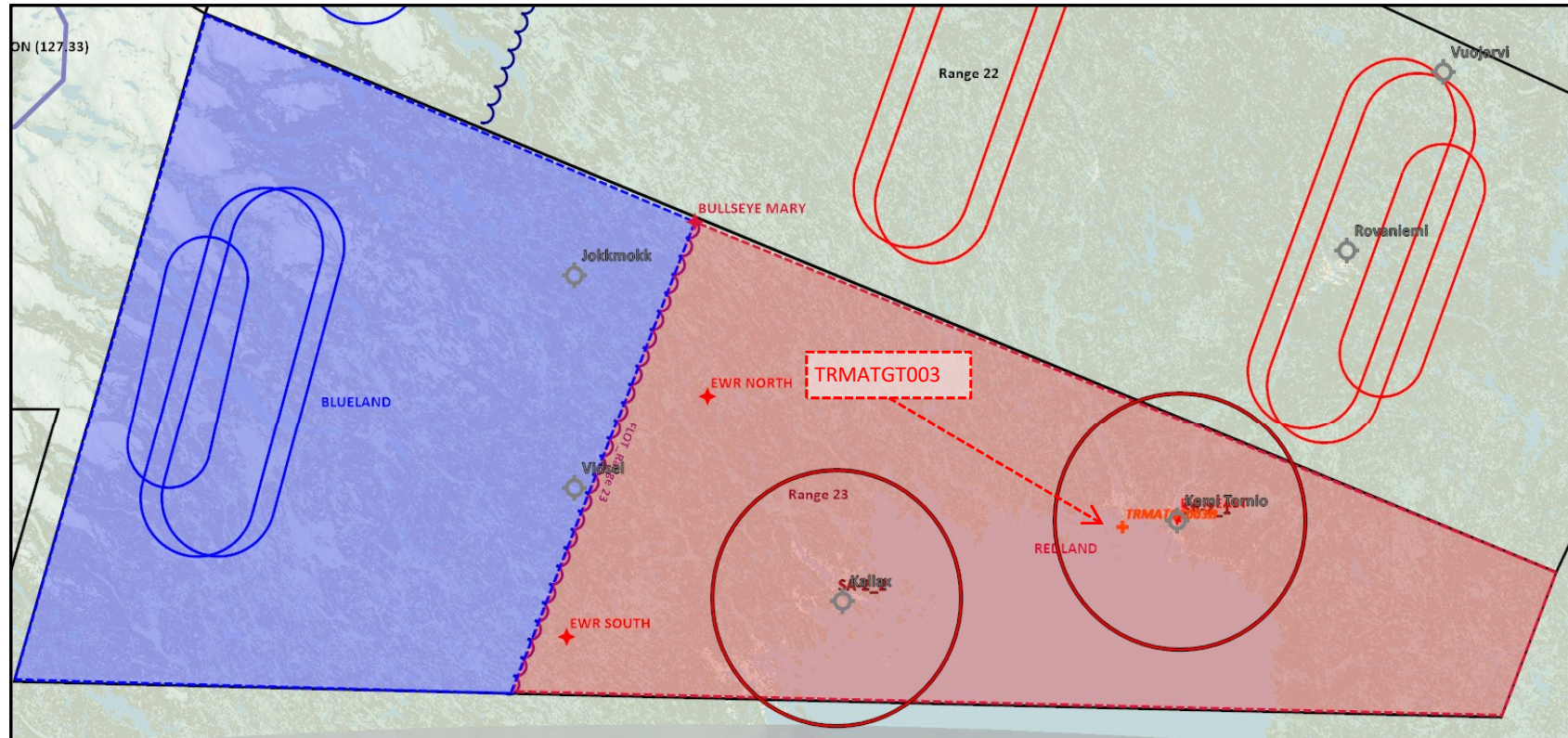


Scenario: REDLAND and BLUELAND at war. BLUELAND have picked up intelligence regarding a chemical weapon research facility in REDLAND.



132nd Virtual Wing

# MISSION



Strike REDLAND military research facility (TRMATGT003)

Task strike flight: Conduct strike.

Task SEAD flight: Create permissive environment for strike.

Task Escort flight: Create permissive environment for strike.



132nd Virtual Wing

# Blue Commanders intent

## **BLUE MISSION:**

**Task:** Strike REDLAND military research facility

**Purpose:** Prevent any information from research facility to be used in the chemical weapon program

- BLUE LOSSES NOT ALLOWED
- RISK LEVEL: MEDIUM

## **TRAINING OBJECTIVES:**

- Objective 1: Strike+SEAD+Escort coordination
- Objective 2: Communication between flights (Strike + SEAD)
- Objective 3: Mission planning and flight briefing
- Objective 4: Strike planning
- Objective 5: SEAD planning
- Objective 6: Escort planning
- Objective 6: Flightlead and wingman practice



Air-to-Ground Tactics restrictions based on ALR		
Acceptable Level of Risk	Definition	A/G Tactics
LOW	Withdraw to preserve forces. Accept only favorable engagements. Losses only at expected training or peacetime attrition rates.	<ul style="list-style-type: none"> <li>Single-ship FLOT crossings not authorized</li> <li>Enter WEZ of SAM/AAA only with fully effective SEAD.</li> <li>Fixed Wing - low-level tactics and reattacks not authorized</li> </ul>
MEDIUM	Losses expected at historical combat rates (~25%). Accept neutral or disadvantageous engagements. Can withdraw to prevent heavy losses.	<ul style="list-style-type: none"> <li>Single-ship FLOT crossings not authorized</li> <li>Operations in AAA and Manpad WEZ as required.</li> <li>Operations in SAM envelopes are acceptable with partially effective SEAD.</li> <li>One reattack authorized to meet mission objectives.</li> </ul>
HIGH	Accept major losses (~50%) to achieve objective; Preserve some future capability, if able.	<ul style="list-style-type: none"> <li>Single-ship FLOT crossings authorized</li> <li>Operations in AAA and Manpad WEZ as required.</li> <li>Operations in SAM envelopes are acceptable with marginally effective SEAD.</li> <li>Reattacks as required to meet mission objectives, withdraw if threat overwhelming.</li> </ul>
EXTREME	Accept any losses necessary to accomplish mission. Defense against WMD (weapons of mass destruction), where consequences of failure is unacceptable.	<ul style="list-style-type: none"> <li>Single-ship FLOT crossings authorized</li> <li>Mission may only be cancelled by higher authority (AWACS/AOC).</li> <li>Aircraft recovery is not a factor in selection of tactics.</li> </ul>

### 5.2.1 SEAD Effectiveness Table for A/G ALR

SEAD Effectiveness	Defined as
FULLY EFFECTIVE	SEAD Can deny Air Defense engagements by continuous suppression throughout the vulnerability period (VUL) using pre-emptive shots or otherwise completely denying SAM sites ability to engage.
PARTIALLY EFFECTIVE	SEAD Cannot deny Air Defense engagements but can distract SAM sites, delaying targeting or disrupt SAM guidance with <b>immediate reactive shots</b> forcing SAM sites to shut down during guidance or be destroyed.  On-board countermeasures and maneuvers can effectively degrade terminal guidance of SAM sites.
MARGINALLY EFFECTIVE	SEAD Cannot deny or delay Air Defense engagements. On-board countermeasures have limited capability to degrade SAM guidance. Tactics depend primarily on overwhelming numbers to saturate defenses and maneuvers to defeat shots.



Air to AIR Tactics based on ALR			
Acceptable level of Risk	Definition	A/A Tactics	AMR
<b>LOW</b>	Accept only favorable engagements.	<ul style="list-style-type: none"> <li>• Avoid merge when possible.</li> <li>• Accept merge only with superior merge ratios.</li> <li>• Use SKATE or SHORT SKATE.</li> </ul>	2:1 or greater.
<b>MEDIUM</b>	Accept favorable or neutral engagements. Can withdraw to prevent heavy losses.	<ul style="list-style-type: none"> <li>• Accept merge with equal merge ratios.</li> <li>• Use BANZAI as required.</li> <li>• Aircraft recovery higher priority than mission goal.</li> </ul>	1:1
<b>HIGH</b>	Accept major losses (~50%) to achieve objective. Preserve some future capability if able.	<ul style="list-style-type: none"> <li>• Accept merge with inferior merge ratios.</li> <li>• Use BANZAI tactics as required.</li> <li>• Recover aircraft if able.</li> </ul>	1:2
<b>EXTREME</b>	Accept any losses necessary to accomplish mission.	<ul style="list-style-type: none"> <li>• Accept merge with inferior merge ratios.</li> <li>• Aircraft recovery not an issue.</li> </ul>	Any

Note the Acceptable Merge Ratio (AMR) is the ratio of friendlies to peer adversaries within Factor Range.<sup>1</sup> For general planning purposes – it is suggested to set FR to 25nm.

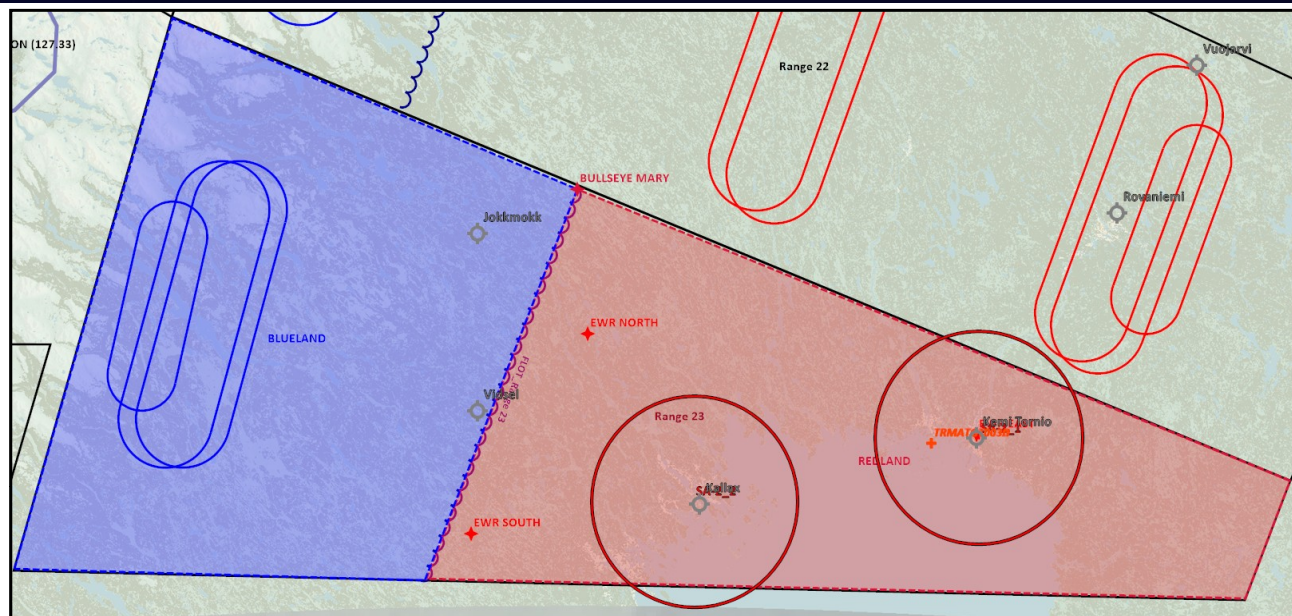
Example 1:  
4xF18Cs vs 2 groups of 2 MIG29's that are within Factor Range of each other is 1:1 and thus requires ALR MEDIUM to MERGE.

Example 2:  
4xF16s vs 4 groups of 2 MIG29's that are outside of Factor Range of each other is 1:2 and thus requires ALR HIGH to MERGE.



132nd Virtual Wing

# THREATS



SAM THREATS: SA-2s are protecting REDLAND airfields KALLAX and KEMI TORNIO. In addition SA-11 and SA-6 are mobile threats likely operating in REDLAND territory.

REDLAND Airforce consist of 3 squadrons:

- Squadron 1: F-16
- Squadron 2: F/A-18
- Squadron 3: F-14

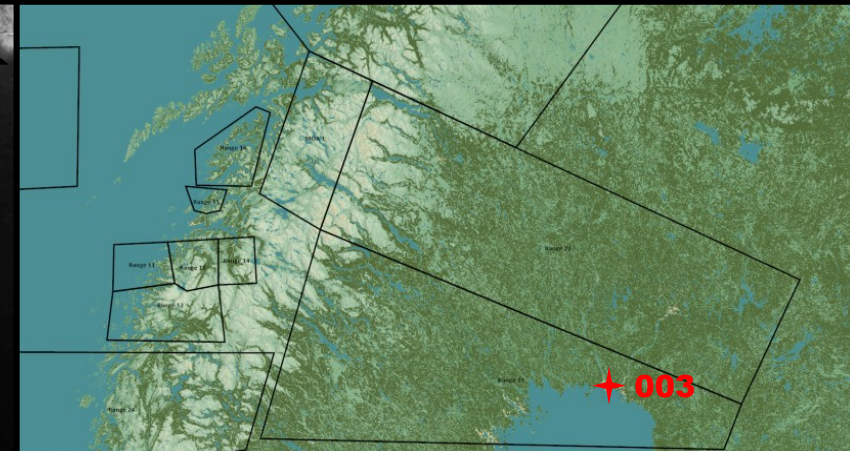
-These squadrons are normally rotating through KALLAX and KEMI TORNIO.

These 3 squadrons normally rotate on DCA (Defensive Counter Air) duties. Normal modus of operandi is to have one flight airborne as a CAP, or on ground alert as a QRA with a 5 minute alert. Normally one additional flight is on backup as QRA 15 minute alert.

- REDLAND jets have routinely violated BLUELAND airspace and established CAP on BLUELAND side of border



# TRMATGT003 Military Research Facility



## DESCRIPTION OF THE DESIRED POINTS OF IMPACT WITH WPN TYPE:

(TLE CAT 1 Coordinates)

TRMATGT003A – Military Research Facility

DPI 1: N65 45.779 E024 10.347/ Elevation: 29ft

TRMATGT003B – Military Research Facility

DPI 1: N65 45.778 E024 10.899/ Elevation: 17ft

TRMATGT003C – Military Research Facility

DPI 1: N65 45.864 E024 10.484/ Elevation: 28ft

TRMATGT003D – Military Research Facility

DPI 1: N65 45.862 E024 11.035/ Elevation: 27ft

Weaponing:

1x GBU 31(V)3/B Penetrator bomb.

Function delay: 60ms

In order to completely destroy the servers stored in hardened facilities underground, the penetrator bomb is needed with a delay of 60ms.

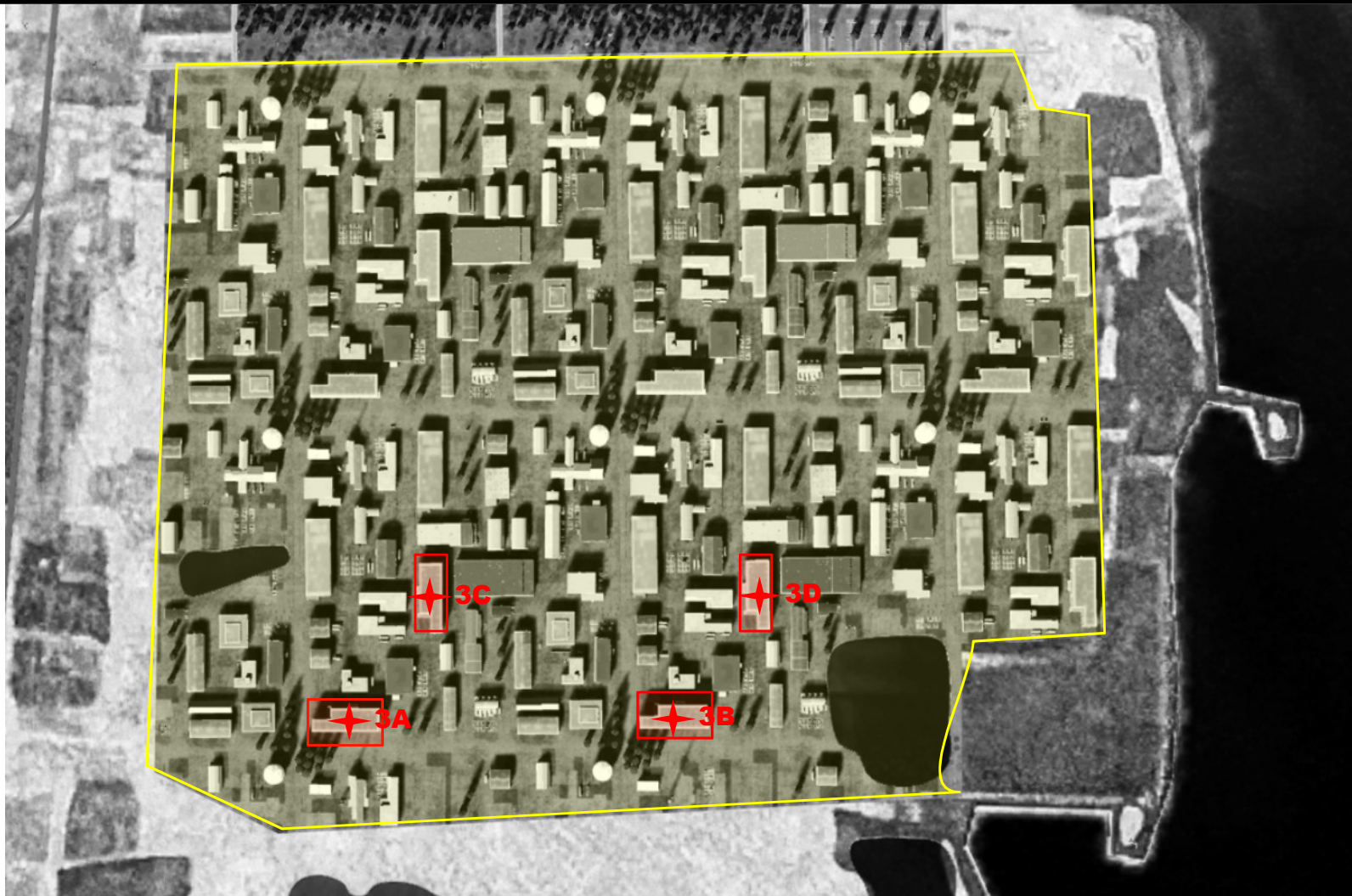
-TRMATGT003 Military Research Facility is a covert research facility for REDLAND Chemical Weapon program.

-Target 3A, 3B,3C and 3D must be attacked at the same time due to risk enemy being able to flee the targets and recover harddrives with information from the CW program.





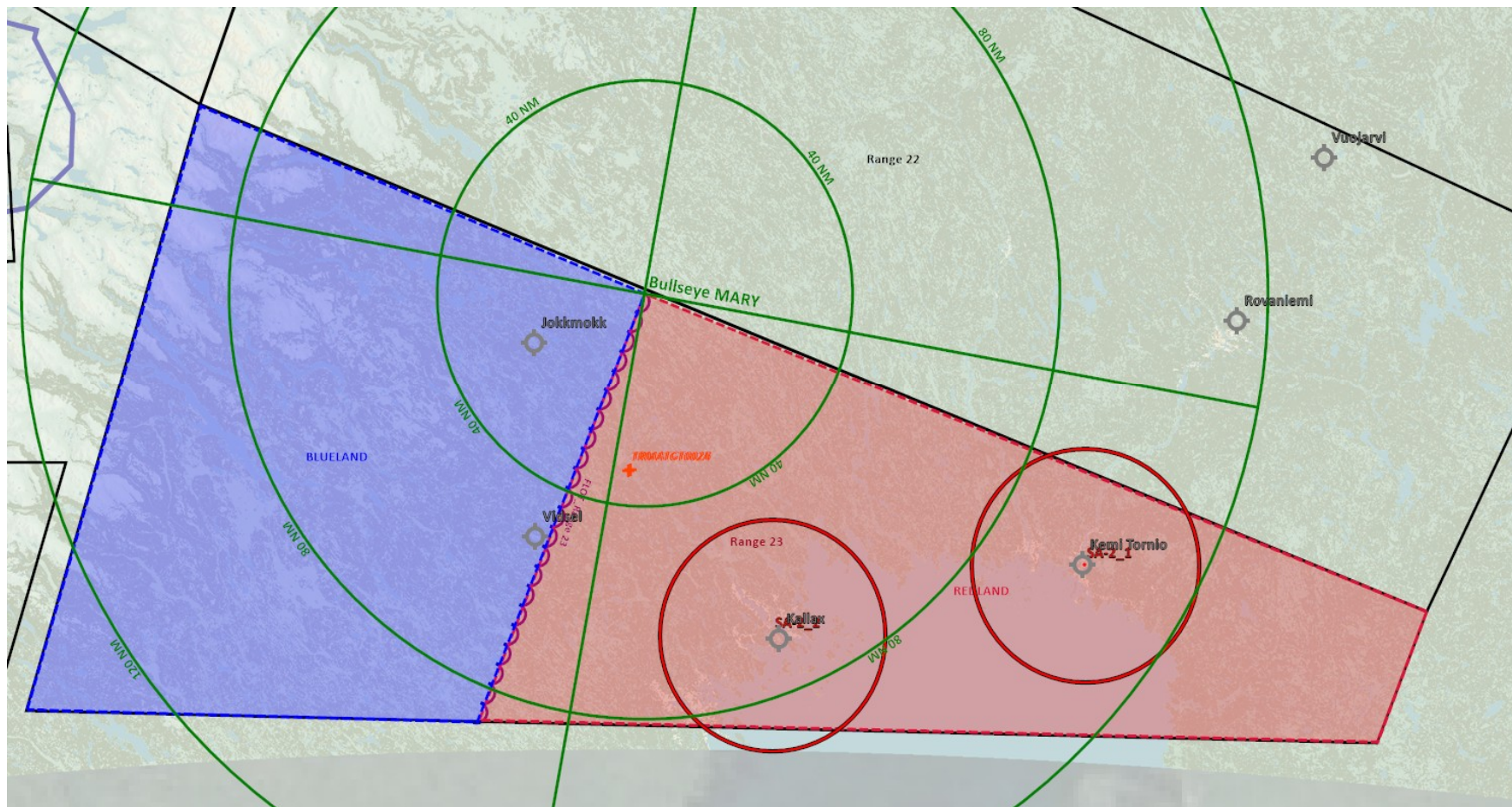
# TRMATGT003 Military Research Facility





132nd Virtual Wing

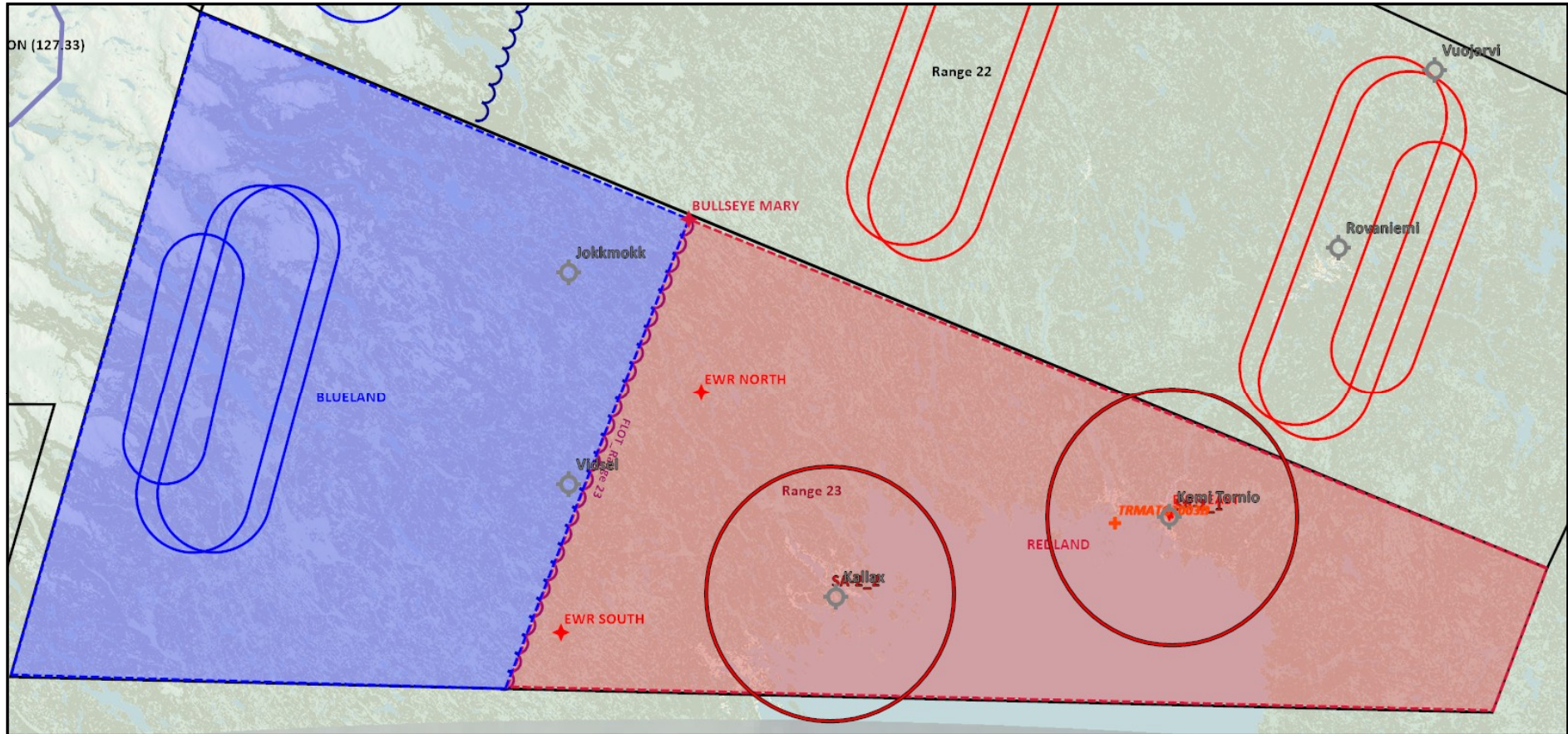
# BULLSEYE



Same for both BLUE and RED



# AAR Support



BLUE: AR202 (F-16) AR302 (F-14, F/A-18)

RED: Tankers available on request in range 22, but not needed for scenario

Tankers need to be activated via F10 menu manually (Blue will activate BLUE tanker, Red will activate RED tanker)



132nd Virtual Wing

# Flow and admin

This mission is conducted in the following way:

- Blue force plan according to this brief.
- Red force (aggressor) conduct own plan in accordance to Red Commanders intent, to facilitate and meet Blue force training objectives).
- Flight announces killed by announcing on Safety&Kill freq (or AWACS freq if AWACS is supporting) & by squawking IFF 4000
- Once killed, RED (aggressor) aircraft will spiral and dive down toward the ground and flow to reset area.
- BLUE will continue regardless of being hit. Red aggressors will land/touch-and-go at Reset airfield, and can get airborne again immediately to get back in the fight. (If AWACS is supporting BLUE, then AWACS can respawn red aggressors outside reset points at AWACS discretion).
- Flights observe kills by missile script information
- RESET BLUE: N/A – Continue mission and debrief hits after event
- RESET RED: Kallax airbase
- HARD DECK: N/A
- IF AWACS is supporting RED side: (BLUE AWACS on by default)
  - RED AWACS need to be activated using F10 menu (WIZARD)



132nd Virtual Wing

# Command & Control

## IF AWACS:

- If 1 AWACS controller, AWACS will support Blue package
- Safety & Kill frequency: **242.0** (Range 23 primary freq) (monitored by AWACS + aggressors)
- Tactical freq: (Blue package+AWACS) **226.5** (Tactical frequency 1)
- AWACS controls RED/BLUE on tactical freq and coordinate with the other side for event start and kills on Safety & Kill freq.

## IF NOT AWACS:

- Package frequency (BLUE): **242.0** (Range 23 primary freq)
- Safety & Kill frequency: Range 23 primary (**242.0**) (Aggressors monitor package and announce kills/safety/coordination only)
- All kills announced on S&K freq



132nd Virtual Wing

# Red Commanders intent

**MISSION:** DEFEND RED TERRITORY FROM BLUE INTRUSION

- RED LOSSES ALLOWED
- RISK LEVEL: HIGH

**TRAINING OBJECTIVES:**

- Objective 1: DCA CAP mission
- Objective 2: Practice Grinder tactics (Counter Rotating CAP)
- Objective 3: Good SA on potential threats
- Objective 4: Timeline for engagement
- Objective 5: Communications within the flight
- Objective 6: Missile defense
- Objective 7: Mission planning and flight briefing
- Objective 8: Flight lead and wingman training



# 132nd Virtual Wing

# Red ALR

Air to AIR Tactics based on ALR			
Acceptable level of Risk	Definition	A/A Tactics	AMR
LOW	Accept only favorable engagements.	<ul style="list-style-type: none"> <li>Avoid merge when possible.</li> <li>Accept merge only with superior merge ratios.</li> <li>Use SKATE or SHORT SKATE.</li> </ul>	2:1 or greater.
MEDIUM	Accept favorable or neutral engagements. Can withdraw to prevent heavy losses.	<ul style="list-style-type: none"> <li>Accept merge with equal merge ratios.</li> <li>Use BANZAI as required.</li> <li>Aircraft recovery higher priority than mission goal.</li> </ul>	1:1
HIGH	Accept major losses (~50%) to achieve objective. Preserve some future capability if able.	<ul style="list-style-type: none"> <li>Accept merge with inferior merge ratios.</li> <li>Use BANZAI tactics as required.</li> <li>Recover aircraft if able.</li> </ul>	1:2
EXTREME	Accept any losses necessary to accomplish mission.	<ul style="list-style-type: none"> <li>Accept merge with inferior merge ratios.</li> <li>Aircraft recovery not an issue.</li> </ul>	Any

Note the Acceptable Merge Ratio (AMR) is the ratio of friendlies to peer adversaries within Factor Range.<sup>1</sup> For general planning purposes – it is suggested to set FR to 25nm.

Example 1:  
4xF18Cs vs 2 groups of 2 MIG29's that are within Factor Range of each other is 1:1 and thus requires ALR MEDIUM to MERGE.

Example 2:  
4xF16s vs 4 groups of 2 MIG29's that are outside of Factor Range of each other is 1:2 and thus requires ALR HIGH to MERGE.

Air-to-Ground Tactics restrictions based on ALR		
Acceptable Level of Risk	Definition	A/G Tactics
LOW	Withdraw to preserve forces. Accept only favorable engagements. Losses only at expected training or peacetime attrition rates.	<ul style="list-style-type: none"> <li>Single-ship FLOT crossings not authorized</li> <li>Enter WEZ of SAM/AAA only with fully effective SEAD.</li> <li>Fixed Wing - low-level tactics and reattacks not authorized</li> </ul>
MEDIUM	Losses expected at historical combat rates (~25%). Accept neutral or disadvantageous engagements. Can withdraw to prevent heavy losses.	<ul style="list-style-type: none"> <li>Single-ship FLOT crossings not authorized</li> <li>Operations in AAA and Manpad WEZ as required.</li> <li>Operations in SAM envelopes are acceptable with partially effective SEAD.</li> <li>One reattack authorized to meet mission objectives</li> </ul>
HIGH	Accept major losses (~50%) to achieve objective; Preserve some future capability, if able.	<ul style="list-style-type: none"> <li>Single-ship FLOT crossings authorized</li> <li>Operations in AAA and Manpad WEZ as required.</li> <li>Operations in SAM envelopes are acceptable with marginally effective SEAD.</li> <li>Reattacks as required to meet mission objectives, withdraw if threat overwhelming</li> </ul>
EXTREME	Accept any losses necessary to accomplish mission. Defense against WMD (weapons of mass destruction), where consequences of failure is unacceptable.	<ul style="list-style-type: none"> <li>Single-ship FLOT crossings authorized</li> <li>Mission may only be cancelled by higher authority (AWACS/AOC).</li> <li>Aircraft recovery is not a factor in selection of tactics.</li> </ul>