

# Volcanic Ash an unexpected 'enemy' at Exercise Frisian Flag 2010

The Dutch airbase Leeuwarden hosted the international exercise *Frisian Flag 2010* in April 2010. Aim of the exercise was to train the pilots in complex warfare scenarios, with international participants from the United States, Norway, Germany, Sweden, Finland, Poland and the Netherlands.

On second day of the first exercise week a Media Day was organised which, with hindsight, was a wise decision because the exercise came to a sudden halt when the Icelandic volcano activities disrupted all flying activities two days later.

The exercise director, Captain Joost of 323 TACTESS (TACTical Training, Evaluation and Standardisation Squadron) gave the brief about the exercise and its objectives.

in the 2009 *Frisian Flag* exercise. From Northern Europe, the Norwegian Air Force supplied eight F-16s and a Falcon 20 for electronic warfare (ECM). The Finnish Air Force sent four F/A-18s, the Swedish Air Force five JAS-39 Gripens. From countries east of the Netherlands, the German Air Force provided F-4s and the Polish Air Force sent their new F-16s. Air-to-air refuelling was by a KC-135 of the United States Air Force Europe, as the Dutch KDC-10 tankers were not available owing to scheduled maintenance and flights to the Gulf Region. During the second week of the exercise, an E-3A out of Geilenkirchen would have participated. The Polish F-16C/Ds had a first visit to Leeuwarden AB. From the German electronic warfare range



American F-15 coming in to land.



Polish F-16 seconds before touchdown.



Swedish Gripen prepares for take-off.

*Frisian Flag 2010* was the largest air-exercise in the Netherlands. Besides 12 F-16s from Leeuwarden AB, 6 F-16s from Volkel AB and an AB-412 helicopter of the Dutch Air Force ('Koninklijke Luchtmacht'), and the Dutch Army ('Koninklijke Landmacht') participated. The United States Air Force Europe brought six F-15 Eagles in the air defence role, just as they did

named 'Polygone', near the city of Heuberg, a mobile Surface-to-Air Missile battery acted as a threat.

## 323 Squadron

The Leeuwarden-based 323 Squadron is part of the NATO Response Force (NRF) and has the task to define, standardise and evaluate procedures and tactics for the Dutch F-16 squadrons. In 2007, 323 Squadron were cleared for the NRF force during evaluation cycles at Eindhoven airbase. Besides the *Frisian Flag* exercise, 323 squadron organises the FWIT (Fighter Weapons Instructor) course and the ATTIC course (Advanced Tactical and Technology Intelligence Course) at Leeuwarden AB.

*Frisian Flag* exercises started in the early 1990s and the format has evolved and expanded every year a bit until in 1998 the increasing involvement of foreign aircraft made it a 'Flag' exercise, albeit a low-budget, close-at-home, smaller version of a *Red Flag* (in the USA) or *Maple Flag* (in Canada) type exercises. The number of participants and their origins have varied. Swedish Gripens and Finnish F/A-18s participated in earlier editions, which had up to 45

participating aircraft. Eight USAF F-15s and a Norwegian ECM Falcon were the only foreign participants in the 2009 edition of *Frisian Flag*.

### Objective

The objective of *Frisian Flag* is “To train for Offensive and Defensive Counter Air roles in a realistic scenario, with emphasis on tactical decisions and effective integration of all available assets and systems”. *Frisian Flag* is an exercise “by pilots and for pilots”, the pilots bringing in their wishes and demands for various scenarios. There is no high-level command centre that defines and tasks the missions, all missions are “invented” and implemented at Leeuwarden by the participating pilots. Demands for the missions are gathered by the *Frisian Flag* staff and the specified missions assigned to the daily mission commanders whereby, every pilot will have a role as mission commander once during the exercise. During the exercise, two missions are flown every day, but during daylight time only. But as the mission preparations take a lot of time,

used. Except for some low helicopter routes to oil-platforms at sea, an area of 200km by 150km was reserved exclusively for this exercise. From Leeuwarden AB, the exercise could be followed clearly by the contrails further north. The recurring items of this exercise consisted of an “attack” on the northern part of the Netherlands, whereby the attacking aircraft came in from their staging areas in the most northern part of the Dutch airspace. The defending forces, including aircraft, vessels and missiles would defend the targets on the Dutch islands and mainland.

### Patriot SAMs

As in 2009, the Dutch Patriot air defence missile systems were involved in *Frisian Flag*. At Leeuwarden airbase, a missile unit, the phased-array-radar unit and a mobile command-post unit were located. Some 50km away (at the Marnewaard, a Dutch Forward Air Controller exercise area) a second missile unit was located. The Patriot missile units acted in two different roles during the exercise. During the first week, the Patriot units of



Norwegian F-16s on the runway.



Finnish F/A-18 turns onto the runway, with a Dutch F-16 in the background.

there are double aircrews present at Leeuwarden; as the morning missions are flown, the afternoon missions are prepared and briefed.

With a total of 48 aircraft flying twice a day, 38 aircraft fly as the ‘blue forces’ during a mission, while 10 aircraft fly as the opposing ‘red forces’. There are no predefined roles for the pilots, one day they fly defensive, the other day they can fly offensive missions.

During *Frisian Flag*, several scenarios are exercised, scenarios that are needed during future NRF deployments, real-world scenarios from the Afghanistan theatre. After each mission a thorough debriefing takes place, whereby the ‘lessons learned’ are incorporated into future missions. There are no restrictions on the employability of the participating pilots, each air force decides on the skill levels of their pilots and on their objectives for the exercise.

### The Area

Owing to the fact that the *Brilliant Ardent/Brilliant Mariner* exercise took place in the German/Denmark area during the same two weeks, only Dutch airspace over the North Sea was



Polish F-16 on the runway of Leeuwarden AB.

*Groep Geleide Wapens* (Group Guided Weapons, GGW) from De Peel airbase supported the ‘blue air’ forces by providing secure skies and targeting opposing ‘red forces’. During the second week of the exercise, the Patriot units changed sides and cooperated with the ‘red forces’ to simulate SAM threats against the ‘blue forces’.

## AOCS

Dutch fighter control is normally based at AOCS (Air Operations Control Station) in Nieuw-Milligen, a well protected bunker below ground-level. During *Frisian Flag*, a mobile command-post was setup at Leeuwarden AB, providing fighter-control by the 710 Control and Reporting Centre (CRC) Squadron. This mobile command post did not use mobile radars, the radar images being supplied by static radar stations in the Netherlands.

## NDMC

The NDMC (National Datalink Management Cell), a common unit of the combined Dutch land, air and seaforces coordinated the Link16 datastreams with a mobile unit at Leeuwarden AB.

The NDMC is responsible for providing Link16 datastreams during the exercise. Link16 is a secured/encrypted dataproduct to connect ground stations and aircraft during flight. The individual radar-images of the airborne fighters of an E-3A AWACS and the various ground stations (static radars, Patriot unit radars) were gathered, combined and retransmitted to the participants in the air and on the ground. This combination of radar-images increases the ‘situational awareness’ for the pilots dramatically,



*Swedish Gripen at the flightline.*

scale for the Dutch pilots and the Dutch ground units (Patriot, AOCS, NDMC).

The Finnish crews left Leeuwarden by road and at the end of April they returned by road and flew their F-18s back home. Thus, only 6 complete missions were flown, compared to the planned 18 missions. The goals of the exercise were not achieved,



*Flightline with Polish F-16s, Norwegian F-16s and German F-4s.*

as compared with the ‘old days’ when the pilots had only their own radar-images available.

## Cancellation!

Owing to the volcanic ashcloud of the Icelandic volcano (Eyjafjallajökull), the *Frisian Flag* exercise was cancelled on the fourth day and all flying activities were stopped. With flying conditions suspended “until further notice”, the pilots prepared for their (possible) next missions. On the 20th, the risks of the volcanic ashcloud were diminished and most foreign aircraft returned home. The exercise then continued at a much smaller

as the first days of an exercise are often used for familiarisation flights and (relatively) simple missions. The cancellation after only 3 days of flying resulted in an incomplete exercise without achieving the goals.

The weekend before the exercise began, a Polish Air Force Tupolev Tu-154 crashed near Smolensk, killing the Polish president Lech Kaczynski and high-ranking officers of the Polish armed forces. Despite a week of national mourning, the Polish F-16s participated in Exercise *Frisian Flag* 2010.

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