

## 8<sup>th</sup> AFHS OREGON CHAPTER NEWS

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[Photograph of LCDR. Robert Zafran courtesy of Tom Philo]

### “Project Muddy Hill”

By LCDR. Robert “Bob” Zafran

LCDR. Robert “Bob” Zafran was the speaker for our November meeting with his excellent “Project Muddy Hill” presentation. Using a Power Point presentation, Bob spoke about his involvement in Project Muddy Hill {1966-1968}, a highly classified, CIA-USN OpEval project assigned to the Naval Air Test Center, Patuxent River MD, that was the initiating portion of the overall TRIM {Trail Road Interdiction Multi-sensor} program during the beginning stage of the Vietnam conflict.

The biggest problem in 1965-1966 involved the supplies that were delivered to the Viet Cong and later on the North Vietnamese Army via the Ho Chi Minh Trail system that extended from western North Vietnam through Laos to South Vietnam. USAF & USN attack aircraft made every effort to interdict foot and vehicle passage on the Ho Chi Minh Trails, but little actual damage to North Vietnamese transport vehicles and personnel actually occurred. Along the length of the Ho Chi Minh Trails were “truck parks” where vehicles and personnel were temporarily stored at night and camouflaged to avoid visual detection from reconnaissance aircraft. The Laos portion of the Ho Chi Minh Trail system was in its beginning stages of supplying goods and weapons to the Viet Cong and later on the North Vietnamese Army fighting in Southern Vietnam.



[Photograph courtesy of LCDR. Robert Zafran]

In June 1966, after eight years service as a Naval Aircrewman and the completion of Naval Aviation Cadet flight training, Bob received his commission as an Ensign and Naval Aviation Observer designation. Ens Robert Zafran received orders to report to the {WST} Weapons Systems Test Division, Naval Air Test Center at Patuxent River, Maryland. The WST division was assigned responsibility for the training and eventual Southeast Asia deployment of Project Muddy Hill. In September, after brief systems factory and university training in the basics of infrared technology, terrain following radar, low-light television, and airborne scanning systems, Bob joined the Muddy Hill contingent at the LTV Electro-Systems plant in Greenville, TX as the Muddy Hill Electro-Optical/Avionics Officer. LTV Electro-Systems was known for its 'Black Operations' modifications of aircraft operated by both the military and CIA agencies.

Muddy Hill was a joint CIA-REWSON {Reconnaissance Electronic Warfare Special Operations, Navy} Research, Development and Operational Evaluation project. Operating from the Air America compound at Udorn Royal Thai Air Force base in northeast Thailand, as CINPACFLT Task Group 50.8, Muddy Hill employed a highly modified NP-2H (P2V-7) Neptune aircraft, Navy Bureau #135582, equipped with unique, state of the art Electro-Optical systems: Forward Looking {FLIR} and Downward Looking, Stereo {DLIR} Infrared, Low Light Level Television (L<sup>3</sup>TV), Terrain Following Radar {TFR}, high resolution reconnaissance cameras, and Active Magnetic Anomaly Detection (AMAD) systems. The NP-2H was repainted with 'Black Widow Black' paint, created by DuPont during WWII and used on the P-61 Black Widow night fighter aircraft. This unique paint scheme provides a virtual image on the aircraft's skin that disperses impinging light making the aircraft nearly impossible to detect during nighttime operations. Additionally, the NP-2H's bladder cell wet wings were modified by installing poly-reticulated foam to stabilize fuel sloshing and minimize wing fires from small-arms fire.

**The Muddy Hill Neptune and a military-civilian support team and military flight crew {originally composed of 33 USN, USAF, USMC, Civil Service, & Factory Systems Engineers} deployed to Udorn Royal Thai Air Force base in northeast Thailand during July-December 1967.**

**Muddy Hill flight operations included low-level {500 ft absolute}, combat scenario, electro-optical based reconnaissance in central and southern Laos. The primary mission was for the Muddy Hill flight crew to use their electro-optical detection systems on night missions to locate camouflaged trucks, truck parks, and anti-aircraft weapons emplacements along the Ho Chi Minh trails within the Laotian Plaine des Jarres and mark them for other Navy and Air Force aircraft to destroy. Post mission still and video based infrared and standard photographic imagery was reviewed by Muddy Hill photo-interpretative personnel, 'targets of interest' identified, and further analyzed at CINCPACFLT facilities in Hawaii.**

**Bob also talked about his use of the Muddy Hill NP-2H at the Naval Air test center after Project Muddy Hill concluded {1968}. Several test scenario missions were conducted to determine the capability of the Muddy Hill IR Systems to detect submarines and small, coastal freighters. Follow-on Navy programs also encompassed second-generation Electro-Optical systems in AP-2H Neptune {VAH-21} and A6C carrier aircraft that operated in South and North Vietnam on low-level combat missions.**



[Photograph courtesy of LCDR. Robert Zafran]

**Maintained and flown by a very small cadre of personnel, the Project Muddy Hill NP-2H aircraft completed 14 operational missions in the highly mountainous area of central Laos under combat conditions. Information on the usage and the capabilities of the unique electro-optical onboard systems served to design, develop, and implement future such nighttime reconnaissance systems that are fundamental to both ground and airborne military operations today. For their participation in the successful Project, Muddy Hill personnel were awarded the Air Medal, Navy Commendation Medal, Navy Achievement Medal with Combat “V” for Valor, Good Conduct Medal, National Defense Medal, Vietnam Service Medal, Vietnam Gallantry Cross, Vietnam Civil Actions Medal, Navy, and the Vietnam Campaign Medal.**

## References

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Portland Aviation Breakfast Club speech 17 May 2009, in ABC Newsletter dated June 2009.

Zafran, Robert. "Project Muddy Hill Marked Advent of Air EO Reconnaissance in Combat" *Seapower* April 2009: 38.

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[http://www.vpnavy.net/misc\\_14/nwts\\_01\\_21feb2008.jpg](http://www.vpnavy.net/misc_14/nwts_01_21feb2008.jpg)

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