With the UN Emergency Force in Egypt

Peacekeeping activities for the Royal Canadian Engineers began in earnest when the United Nations Emergency Force (UNEF) was authorized on 4 November 1956 for deployment in Egypt. This first United Nations Emergency Force was established to secure an end to the Suez Crisis between Egypt, Israel, Britain and France. The plan envisaged the deployment of UNEF on both sides of the armistice line. Egypt accepted receiving the UN forces, but Israel refused. Lieutenant General Tommy Burns, formerly a Roral Canadian Engineer officer, was appointed Force Commander.

The first forces arrived in Cairo on 15 November 1956 and UNEF was at its full strength of 6,000 by February 1957. The force was fully deployed in designated areas around the Suez Canal in the Sinai and Gaza when Israel withdrew its last forces from Rafah on 8 March 1957. The UN sought to station UNEF forces on the Israeli side of the 1949 armistice lines, but Israel rejected this proposal.

The mission was to be accomplished in four phases:

- Phase 1: The Force would facilitate the orderly transition in the Suez Canal area in November-December 1956, when British and French forces left;
- Phase 2: From December 1956 to March 1957, the Force would facilitate the separation of Israeli and Egyptian forces and the Israeli evacuation from all areas captured during the war, except Gaza and Sharm-el-Sheik;
- Phase 3: In March 1957, the Force would facilitate the departure of Israeli forces from Gaza and Sharm-el-Sheik; and
- Phase 4: Deployment would be conducted along the borders for purposes of observation.

The engineer component of this multi-national force was a Royal Canadian Engineer detachment consisting of the UNEF Engineer Company with a Field Engineer Section and a Military Foreman of Works Section. A two-man survey detachment was attached to UNEF Headquarters.

Four camps were rehabilitated and maintained for the force, roads were maintained along the Armistice Demilitarized Zone, minefields were lifted, patrol boats were operated on the Suez Canal, a water supply plant in Port Said was manned, two 3600-foot runways were constructed, a huge map depot with 40,000 maps was established, and a diesel railway was operated.

During the ten-year tenure of the UNEF, the military engineers improved the accommodation. The work was implemented using local labour and contractors. In the usual Canadian practice, a combination of local and Canadian construction standards were implemented.

Due to financial constraints and changing needs, the UNEF force shrank over the years to 3,378 by the time its mission ended in May 1967 and the force was withdrawn when Egypt withdrew permission for the UNEF to occupy their territory. Most of the forces were evacuated by the end of May 1967, but 15 UNEF troops were caught in combat operations and killed in the Six-Day War, 5 -10 June 1967. The last United Nations soldier left the region on 17 June 1967.

UNEF I was the first of many United Nations peacekeeping and peacemaking operations to which Canada contributed significantly and to which Canadian Military Engineers played a significant role.