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AN ELECTRONIC FLARE FOR THE POLICE TRAFFIC OFFICER

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TECHNICAL MEMORANDUM

Submitted by
Canadian Police Research Centre

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NOTE: Further information
about this report can be
obtained by calling the
CPRC information number
(613) 998-6343

EXECUTIVE SUMMARY

The "GLAIR" electronic flare was developed by H.C.I. and Norvick Technologies Inc. With the assistance of the National Research Council of Canada's Industrial Research Assistance Program (IRAP) in the summer of 1993.

The objective was to develop, for the Canadian police officer, an electronic flare visible in the bright sunshine, powered with the latest battery components and a fast-rate battery charging system. The "GLAIR" system of four flares, packaged in their unique charging unit, was prepared for evaluation in the Spring of 1994.

"GLAIR" operates both night and day with its unique pulse pattern, in a traffic accident situation. Each unit operates for a two hour time period, and has the capability of completely recharging all four flares in the unit, in twenty minutes in the trunk of the police car. The Peel Regional Police Service evaluated the "GLAIR" system. While early comments were positive, further work is necessary with respect to battery charge life and light intensity to ensure operational effectiveness.

SOMMAIRE

La balise lumineuse Electronique aGLAIRm a été mise au point par H.C.I. et Norwich Technologies Inc. avec l'aide du Programme d'aide à la recherche industrielle (PARI) du Conseil national de recherches du Canada au cours de l'été 1993.

L'objectif initial était le développement, pour les agents de police canadiens, d'une balise lumineuse électronique visible en plein soleil, alimentée par les piles les plus récentes et comportant un système de recharge rapide. Le système GLAIR compose de quatre balises logées dans leur dispositif de recharge était prêt pour évaluation au printemps 1994.

Le système GLAIR fonctionne le jour ou la nuit et il signale un accident routier ou un déversement de substances dangereuses au moyen d'une séquence d'impulsions lumineuses. Chaque ensemble fonctionne pendant deux heures et toutes ses balises peuvent être rechargées complètement en 20 minutes dans le coffre d'une voiture de police. Le service régional de police de Peel a fait l'évaluation du système GLAIR. Les premiers commentaires ont été positifs. Toutefois, afin d'assurer la plus grande efficacité opérationnelle possible, d'autres recherches sont nécessaires pour améliorer la durée de la charge des piles ainsi que l'intensité de la lumière.

INTRODUCTION

Flares have been used by police at traffic accident scenes since their introduction many years ago. Police have been looking for an alternative because the current product:

- is expensive
- is not environmentally friendly
- cannot be used at chemical and fuel spills
- burns uniforms and equipment
- is smoky, offensive and the fumes are noxious

In 1993, the CPRC was approached by an IRAP Industrial Technology Advisor from southern Ontario to see if there was any police interest in their "GLAIR" project, the development of an electronic flare by the small Canadian company H.C.I. In April, 1994, six units each containing four separate flares, were sent for assessment to Peel Regional Police Service.

EVALUATION

The units were evaluated by Peel Regional Police over a period of one year ending on July 5, 1995. The following is a summary of the replies.

1. Ease of Use
 - a. All thought the flares were easy to remove.
 - b. Generally most, but not all, thought the flares were easy to place back in the charger.
 - c. All thought they were easy to operate.

2. Functionality
 - a. Most thought the colour was "OK", but many thought the colour should be brighter.
 - b. The charger seemed to work well, but it was felt that the flares lost their charge too quickly.
 - c. Flares were used in both day and night operations and, again, the common complaint was that the band of light was not bright enough or wide enough.
 - d. One officer reported that the flares were used during very windy conditions with no problems experienced.
 - e. Six flares were preferred over four per vehicle.

3. Other Comments

- a. **Not bright enough**
- b. **Too small**
- c. **Flashing light should be more consistent and larger**
- d. **On-off switch required**
- e. **Flares did not last long enough before requiring recharge**
- f. **No nails to worry about**

Overall, there is still work to be done on this product before it becomes a safe, reliable on-road warning device. The biggest areas of concern were the brightness of light and length of use; the charge did not seem sufficient. Both of these concerns affect the safety of the scene and usefulness of the product by the officer.