

**SKYSCRAPER EMERGENCY RESPONSE TEAM
(IN-S.E.R.T.)**

**A Concept for The Director of Homeland Security
Courtesy Copied To:
Senator Ron Wyden
Senator George Allen**

Prepared by:

The Staff of *eMOTION! REPORTS.com*

The Problem

September 11, 2001 proved the High-rise rescue operational inadequacies of municipally based fire/rescue services. It is imperative that this problem is quickly addressed using both existing and proposed technologies and methods.

A Solution

IN-S.E.R.T. is a dedicated emergency response unit operated as an extension of The United States Coast Guard (USCG) F.E.M.A. and existing fire/rescue departments in any major city. Team members will have at their disposal a range of fire/rescue and fire suppression technologies designed to facilitate High-rise rescue operations.

The potential flexibility of IN-S.E.R.T makes it a template for a broad spectrum of emergency responses not limited to High-rise rescue. Therefore, it has value beyond that immediately observable.

Technology, Equipment, Methods

Specially trained personnel will benefit from the decades old expertise of the acclaimed “Smoke Jumpers” of the Western/Pacific Northwestern United States and Red Adair’s legendary pyro-containment methodologies. Additionally, they will benefit from newly developed Victim Extraction At Altitude (VEAA) techniques.

The operational core of IN-S.E.R.T consists of 4 Sikorsky MH-53J large helicopters (a modification of the HH-53 “Super Jolly Green Giant” rescue craft for night and adverse weather operations) 2 Sikorsky Sky Crane heavy lift helicopters and 2 Aerospatiale AS 366 rotorcraft.

The primary function of the “Giants” is rooftop deployment of personnel, Limited Area Fire fighting Equipment (LAFE) rapid VEAA duties and as an airborne command center for the Situation Air Boss (SAB). Their in-flight control systems makes them ideally suited for the variable wind directions, shear and thermals encountered above a burning High-rise.

LVEM

(Large Victim Extraction Modules)

The Sky Cranes will have the duty of lowering LVEMS capable of handling 100 people per extraction. LVEMS will utilize components of the field medical modules

IN-S.E.R.T.

Page 2

LVEMS (cont'd)

designed for these craft. This will allow on-site stabilization of severely injured victims.

The powerful AS 366 craft, currently in USCG use, will provide flexible support to in-building IN-S.E.R.T. teams and allows for close-in, more difficult extractions. An example would be window ledge rescues by rappelling team members. All aircraft will be centrally directed by the Situation Air Boss responsible for the creation and control of air and ground space for one-mile square.

FFHCD

(Fall From Altitude Cushioning Device)

Since no rescue effort has proved quick enough to prevent some victims, such as those trapped on floors above the point of impact at The World Trade Center, from jumping rather than face death by fire, IN-S.E.R.T. teams will deploy FFHCDs around the building(s). These are larger versions of the air cushions used by Hollywood stunt personnel.

FFHCDs, primarily utilized for lower level (10 and below) would no doubt save some lives in disasters of WTC magnitude and less.

AFSS

(Airborne Fire Suppression System)

An imperative to successful rescue of trapped skyscraper occupants is containing fire spread. And to accomplish this, the second mission of the Sky Cranes is delivery of AFSS modules to building rooftops as a self-contained fire control unit.

Depending on the type of fire, AFSS modules will contain either water or foam which can be injected at varying velocities. The idea is to maintain maximum fire containment, thus giving IN-S.E.R.T. team members an added margin of safety and precious additional rescue time.

SCOG

(Self Contained Operating Gear)

Technologies derived from the aerospace and marine sectors will combine to produce a new design direction for IN- S.E.R.T. member protective gear.

SCOG (cont'd)

SCOG suits are designed as a *virtual exoskeleton* and will permit personnel to operate for extended periods in an environment severely compromised by flame and smoke.

The suits will recycle breathable air and in event of oxygen depletion or the system is damaged, an advanced air filtration unit will permit continued though limited function.

Global Deployability

The highly specialized capabilities of IN-S.E.R.T. personnel render them an invaluable resource to emergency services around the world. As a result, they will, in addition to their own continuous Special Forces-type training, provide opportunities for emergency services personnel from various countries to train with them. The knowledge is therefore shared, and provides added resources for any level of disaster anywhere in the world.

The ability of IN-S.E.R.T. personnel to globally deploy rapidly will be enhanced through the use of the forthcoming civilian version of the Boeing C-17 Globemaster III military transport: the BC-17X.

Two of these heavylift aircraft permits an entire typical team complement to be airlifted rapidly to virtually any location.

IN-S.E.R.T.'s status as an extension of Federal/State/Municipal services, permits easy access to additional aircraft and other equipment should the need arise.

WTC Extraction/Evacuation Simulation

A six-dimensional NASA-type recreation (such as that developed by the agency in 1995 to analyze the 7/94 crash of USAir FLT 1066 in conjunction with The University of Chicago's Dr. Theodore Fujita; considered one of the world's foremost authorities on severe weather) of the WTC incident builds on second-by-second data derived from aircraft CVR and DFDR data, direct observation and rescue effort communications. A highly accurate simulation from initial impact to collapse is thus created. The model would also incorporate building schematics, construction materials used and the effect of impact, blast and heat on the structures. The simulation database would be combined with those of helicopter, fixed wing, ground vehicle and personnel hyper-interactive simulators to create a virtual extraction/evacuation training exercise for IN-S.E.R.T. teams. This simulation

Simulation (cont'd)

would provide a virtual demonstration of the team's ability to successfully rescue the bulk of the building's occupants – within the impact to collapse timeframe – utilizing the proposed techniques.

Synopsis

The events of September 11, 2001 made it painfully clear that emergency services at site were utterly incapable of handling a disaster of this magnitude. And this is in addition to the fact of the typical fire department's inability to externally fight fires above the seventh floor.

The inescapable conclusion is that IN-S.E.R.T. is a now requirement.

It is a very doable plan owing to its ability to use in-inventory rotary and fixed wing aircraft and mostly off-the-shelf equipment, thus minimizing implementation costs. Further, the new technologies as represented by SCOG, AFSS, LAFE and FFHCD are well within our developmental capabilities.

The specialized training for IN-S.E.R.T. initiates will equal or exceed that of SEALS, Rangers and other Special Ops teams –making membership a most desirable proposition.

Finally, the most positive aspect of IN-S.E.R.T.'s existence is a restoration of confidence on the part of sky scraper occupants that survival *is a given and not an exception.*

Concept Development

Approval for the first phase of this program will result in an immediate study involving interviews with professionals. This will allow us to synthesize the requirements, inclusive of assessment of technical facilities such as the Argonne National Labs and the F.E.M.A. Fire Academy, base training testing and drills.

The Study Phase will be followed by development of a Preliminary Plan over a 3-5 month period based on data gleaned from the first phase. This second phase will discuss relative merits of IN-S.E.R.T., expanded technological descriptors, costs and implementability timetables. Associate organizations specializing in these areas will be utilized.

Study costs can be funded via the new anti-terrorism technology development and war prosecution allocation recently approved by the President.

IN-S.E.R.T.

Page 5

Concept Development (cont'd)

Again, the beauty of IN-S.E.R.T. is its simplicity, its ability to utilize existing fire/rescue, fire suppression technology and training. Moreover, there is immediate applicability of several core elements in a range of emergency response scenarios.

Copyright 2001
10/11/01
Myron D. Stokes
Automotive Intelligence Group, Inc
Bloomfield Hills, MI 48304
877-636-2731