

**Docket No. SA-530**

**Exhibit 3-C**

**NATIONAL TRANSPORTATION SAFETY BOARD  
Washington DC**

**Canadian Helicopter EMS Industry Overview  
Sylvain Seguin**

**(29 pages)**



- 1. Introduction**
- 2. The Canadian HEMS Framework**
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## 1. Introduction

- **Dedicated HEMS operations since 1977**
- **Total of 20 helicopters, (4 Operators), currently engaged**
- **Hospital transfers, Scene Calls, Night ops, NVG ops (STARS)**
- **Over 230,000 hrs flown industry-wide with no fatal accidents**



# Canadian Helicopter EMS Industry Overview



## 2. The Canadian HEMS Framework





## 2. The Canadian HEMS Framework

- Government funded programs
- No Cost recovery paradigm
- Contracts awarded via public RFP process
- Contracts managed through Provincial Health departments





## **3. Historical Review**

**1977 - First dedicated service – 1 Bell 212 – Toronto, Ontario**

**1980 – Multiple locations – 2 Bell 212s 1 S-76– Ontario**

**1985 – STARS commences operations in Calgary, Alberta – BK117**

**1992 – STARS expands with a BO105 / BK117**

**1996 – Nova Scotia commences operations with 1 S76A**

**1998 – British Columbia dedicated RW service with 2 S76As / 1 B222**



## 4. Current Canadian HEMS Coverage



- **Dedicated HEMS programs in 4 Provinces**
- **Serving over 21 Million People**
- **Four (4) established service providers**



# Canadian Helicopter EMS Industry Overview



## Ontario





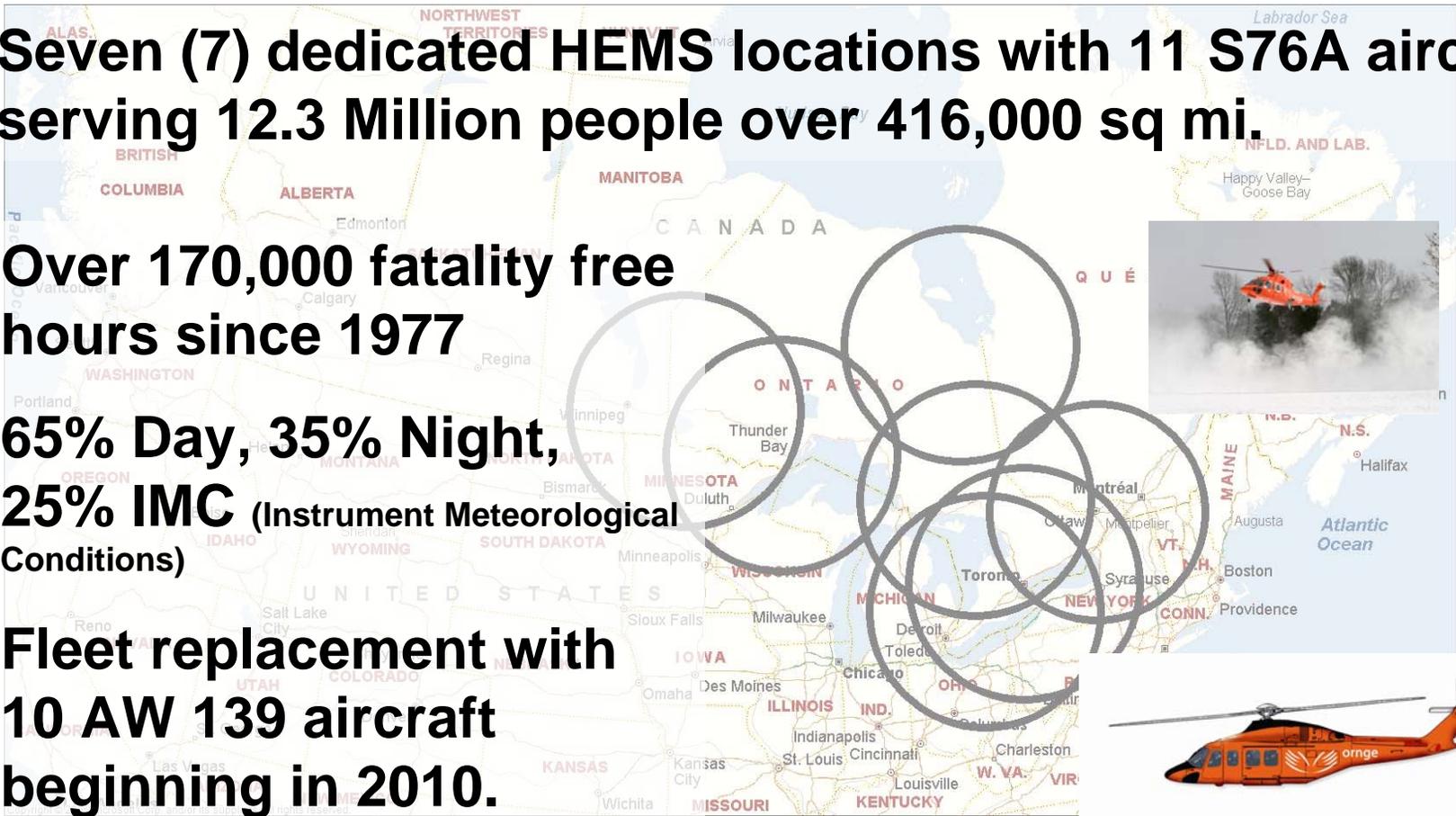
## Ontario

**Seven (7) dedicated HEMS locations with 11 S76A aircraft serving 12.3 Million people over 416,000 sq mi.**

**Over 170,000 fatality free hours since 1977**

**65% Day, 35% Night, 25% IMC (Instrument Meteorological Conditions)**

**Fleet replacement with 10 AW 139 aircraft beginning in 2010.**





# Canadian Helicopter EMS Industry Overview



## Alberta





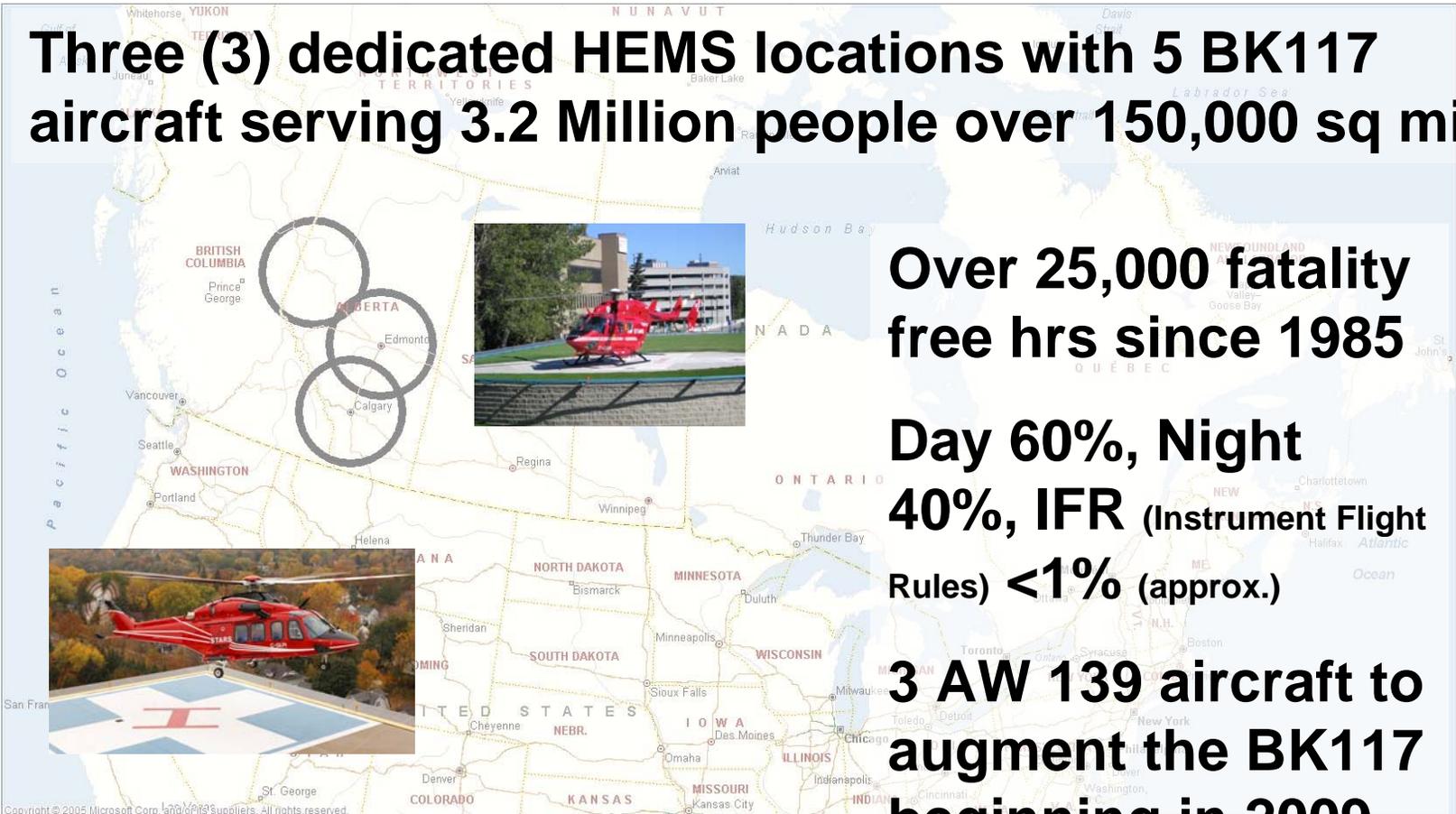
## Alberta

**Three (3) dedicated HEMS locations with 5 BK117 aircraft serving 3.2 Million people over 150,000 sq mi.**

**Over 25,000 fatality free hrs since 1985**

**Day 60%, Night 40%, IFR (Instrument Flight Rules) <1% (approx.)**

**3 AW 139 aircraft to augment the BK117 beginning in 2009.**





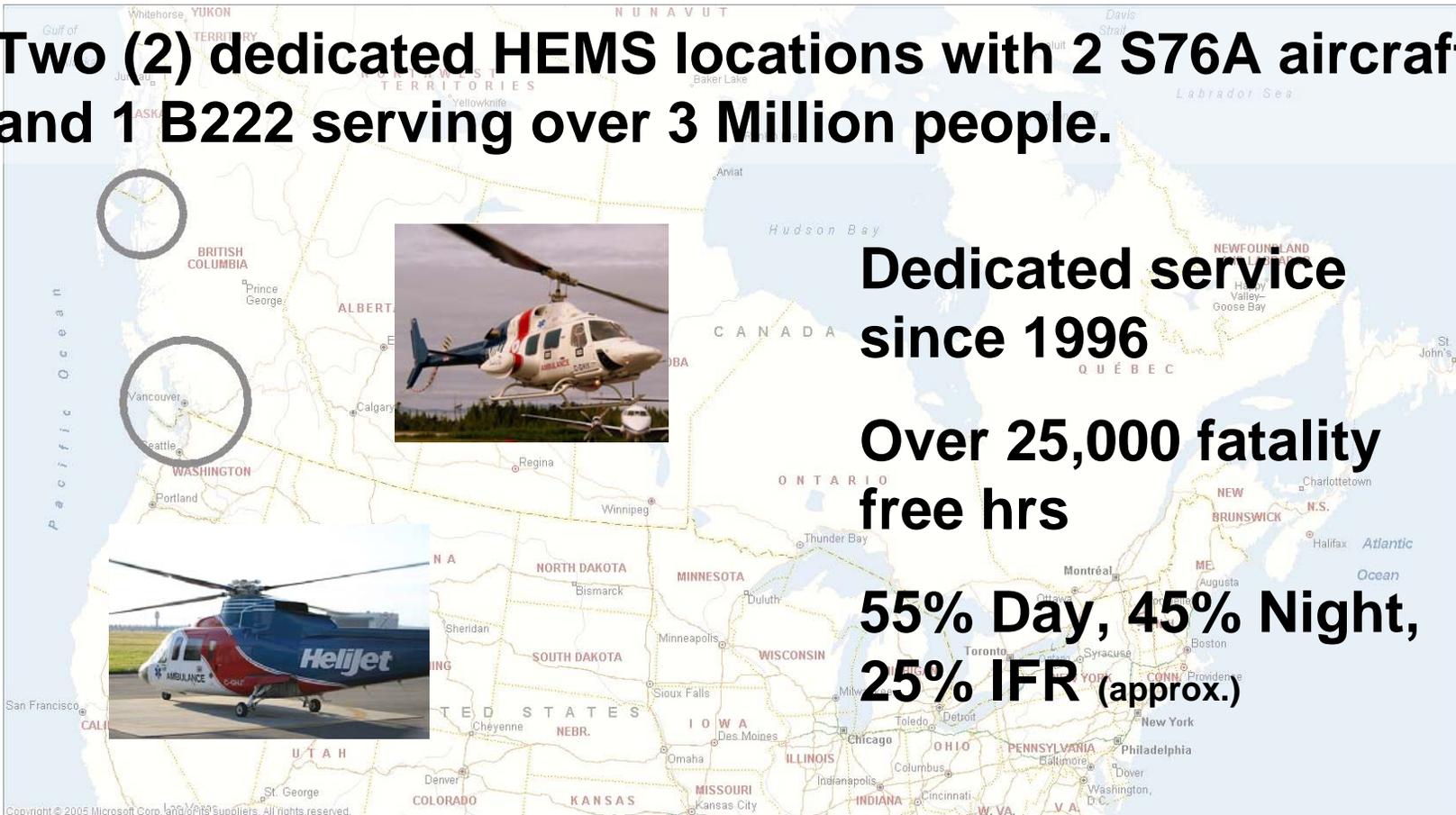
## British Columbia





## British Columbia

**Two (2) dedicated HEMS locations with 2 S76A aircraft and 1 B222 serving over 3 Million people.**





## Nova Scotia





## Nova Scotia

**One dedicated HEMS location with a single S76A aircraft serving over 1 Million people over 25,000 sq mi.**

**Dedicated service since 1996**

**Over 9000 fatality free hrs**

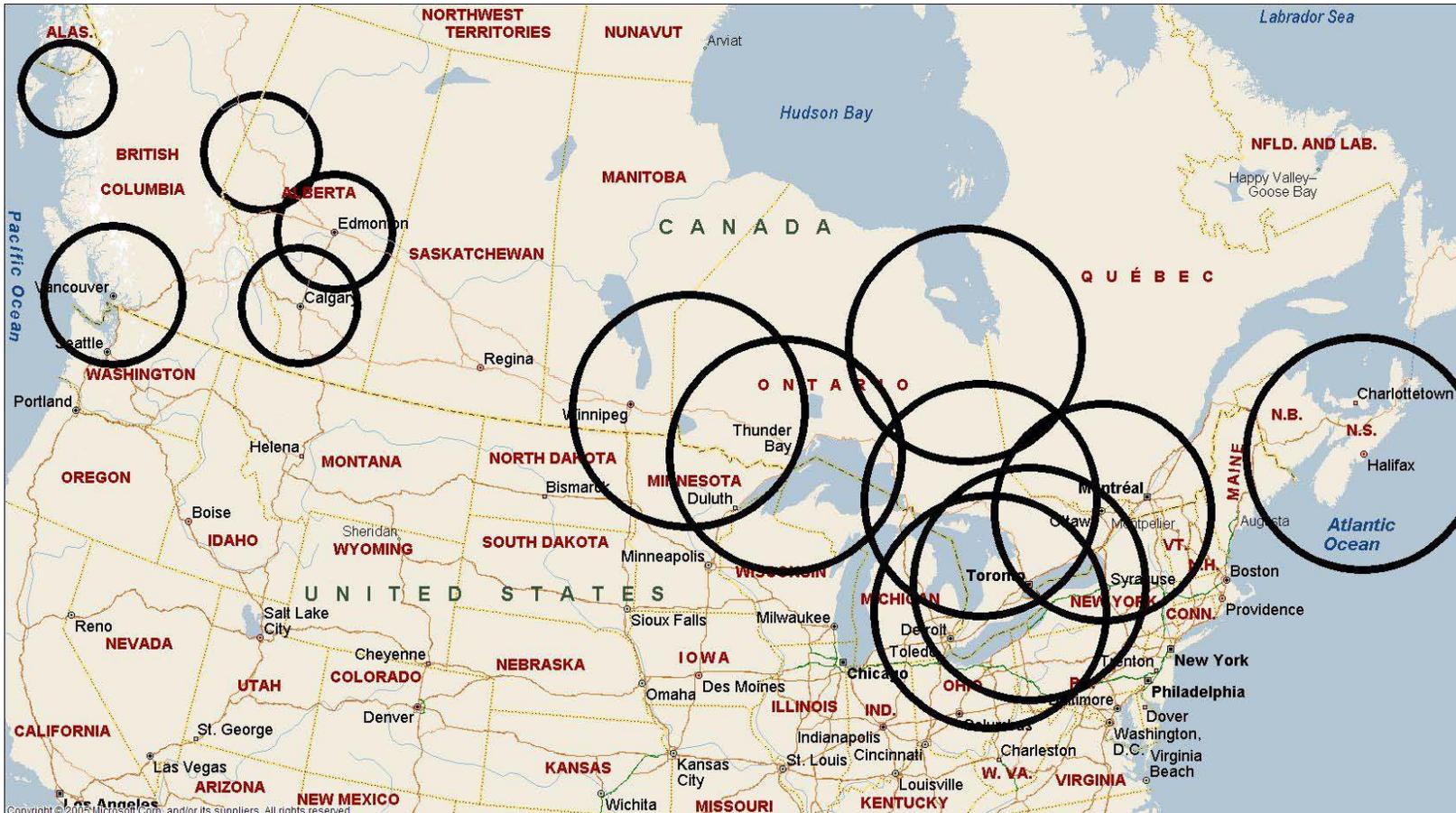
**65% Day, 35% Night, 35% IFR (approx.)**

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## Canada



Operating Range represented by circle not to scale



## 5. Regulatory Framework CAR (Canadian Air Regulations)

- **Well defined weather limits – CAR 703.34 - 723.34**
- **Well defined Night VFR crew / equipment / aircraft requirements - CAR 703.88**
- **SPIFR (Single Pilot - IFR) permitted but not engaged by dedicated HEMS operators - CAR 703.86 (and 723.86)**



## 5. Regulatory Framework

### Special Note: STARS NVG Operations

- **Weather Limits:** As per CAR (Canadian Air Regulations) for night VFR ops. (1000 ft above obstacles +/- 3 NM of track, 3 SM visby)
- **For Advance NVG operations:** TC (Transport Canada) exemption permits flights with no lateral limits for night VFR EMS flights. For advanced NVG flight in Mountainous regions, a minimum of 5 miles visibility required



## **5. Regulatory Framework**

### **Special Note: STARS NVG Operations - Training**

**Basic NVG pilots: Initial NVG ground course and 3 hrs of NVG flight training.**

**Advanced NVG at STARS: NVG pilot must have 35 takeoffs and landings on NVGs and must complete advanced NVG ground school course and NVG training flight in the mountains with a Training Captain.**



## **6. Training and Experience Levels**

**Client Standards for Pilot experience**

**Client oversight of Training programs**

**Regulatory oversight of Operations**



## 6. Training and Experience Levels

### Client Standards for Pilot experience (may vary by Province)

#### FO: (Min)

- **500 hrs total flight time**
- **Commercial license with Type rating**
- **Current Night and IFR (Instrument) rating**
- **Current PPC (Pilot Proficiency Check)**
- **ATP (Airline Transport) exams completed**



## 6. Training and Experience Levels

### Client Standards for Pilot experience PIC (Min) (may vary by Province)

- **2000 (3000)hrs total flight time with ATPL (H)**  
(Airline Transport Pilot License Helicopter)
- **1000 hr multi engine PIC** (Pilot in command)
- **Type rating, 100 hrs on type,**
- **Current Night & IFR** (Instrument) **Rating,**
- **Current PPC** (Pilot Proficiency Check)



# Canadian Helicopter EMS Industry Overview



## 6. Operation specific training





## 7. Operational Framework

- **Twin Engine, IFR Certified aircraft**
- **Two pilot cockpits**
- **ATPL(H) for PIC / Instrument ratings** (Airline Transport Pilot License Helicopter)
- **Strong culture of SOPs**
- **Centralized dispatch centers**
- **Maintenance Department**



## 7. Operational Framework

- Not strictly a Canadian Paradigm
- New Jersey State Police Aviation Dept





## 7. Operational Framework

- Not strictly a Canadian Paradigm
- NJ State Police Aviation Department
  - Twin engine helicopters (S76B)
  - Two pilot crews with Inst Rating
  - Centralized dispatch





## 8. Role of SMS

### How can SMS apply to EMS Operations?

- **Strong proactive processes for completing risk assessment**
- **Non-punitive reporting policy**
- **Strong reactive process for managing hazards / incidents**
- **Clear SOPs, Policies & Procedures**



## 9. Online Resources SMS

- <http://www.ihst.org/> - SMS Toolkit
- <http://www.rotor.com/> - Event Database / MMIR
- <http://www.ogp.org.uk/> - International Association of OIL & Gas Producers – Publication -Aircraft Management Guidelines



## 10. Questions

