LEADING THE WAY WITH EYES IN THE SKY: WHY CANADA SHOULD CONTRIBUTE ITS CP-140 AURORAS TO UNITED NATIONS PEACEKEEPING

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Knowledge is Power – Francis Bacon, Meditations Sacrae, 1597

INTRODUCTION

United Nations (UN) peacekeeping missions have evolved since their inception in 1948.[1] Traditionally military in nature, they were limited to interim measures to monitor peace and included tasks such as: observation, monitoring and reporting through the use of static posts and patrols; supervision of cease fire and support to ensure that peace accords were being adhered to; and interposition as a buffer and confidence building measure.[2] Described as a "job only a soldier could do,"[3] the UN's first peacekeeping mission, UNTSO[4] consisted of a mediator and a group of observers whose primary job was to ensure the holding of a truce agreement.[5]

Modern peacekeeping has become increasingly complex. The focus has turned towards containing the internal conflicts in regions of the world ridden with poverty, corruption, and spoilers, whose interests are the anti-thesis of peace.[6] Most often peacekeepers arrive in the aftermath of conflict when the regions are still volatile. MONUSCO[7] is illustrative of the

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[1] United Nations, "UNTSO" Last accessed 08 May 2014, http://www.un.org/en/peacekeeping/missions/untso/.

[2] United Nations Department of Peacekeeping Operations, *United Nations Peacekeeping Operations: Principles and Guidelines* (New York: UN,2008),21.

[3] Peace Operations Monitor, "The Ongoing Evolution of Peacekeeping," Last accessed 08 May 2014, http://pom.peacebuild.ca/bestpracticesevol.shtml.

[4] UNTSO stands for The United Nations Truce Supervision Organization.

[5] United Nations, "UNTSO,"…

[6] United Nations Department of Peacekeeping Operations, *United Nations Peacekeeping Operations: Principles and Guidelines* …21-22.

[7] MONUSCO stands for the United Nations Organization Stabilization Mission in the Democratic Republic of Congo.

complexity of modern missions. The Democratic Republic of Congo (DRC) is rated as one of the twenty five most corrupt regions of the world on the Corruption Perception Index.[8] Former president Mobuto coined the term "Le mal Zairois" to describe the immoral situation that perpetuates the culture.[9] According to a 2005 Security Council Report the peace process in DRC was plagued by corruption, continual inflow of weapons, challenges with disarmament, and the illegal exportation of resources.[10] Most recently, obstructions to peace have been spoilers taking advantage of power and security vacuums in country. The cycle of violence is fed by resource exploitation, interference by neighboring countries, pervasive impunity, inter-communal feuds, and a weak infrastructure to support law and order. Conflict, human rights atrocities, and sexual and gender violence remain prevalent despite over fifteen years of peacekeeping intervention.[11]

To work safety and efficiency in this multifaceted environment, modern peacekeepers need to be adequately armed with the right "peacekeeping weapons." Unlike conventional warfighters, who rely primarily on hard power to accomplish their mission, peacekeepers who are lightly armed, if armed at all, rely on information as the cornerstone of their mission.[12] Thus given the complexity and danger of their mission in the modern environment, peacekeepers need to be equipped with more than the "mark one eyeball" and basic observation technology to execute their mission safely and effectively. Aerial intelligence, surveillance, and reconnaissance (ISR) can provide this vital capability. Considered one of the world's best ISR platforms,

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[8]Transparency International, "Corruption Perception Index 2013," Last Accessed 08 May 2014, http://cpi.transparency.org/cpi2013/results/.

[9] James A. Robinson, *Prosperity in Depth: Democratic Republic of Congo: Curing the Mal Zairois, The Democratic Republic of Congo Edges Towards Statehood* (London: Legatum Institute, 2013),3.

[10] Security Council Report: Updated Report, *Democratic Republic of Congo: Great Lakes* (New York: 15 December 2005)

[11] United Nations, "MONUSCO," Last accessed 08 May 2014, http://www.un.org/en/peacekeeping/missions/monusco/background.shtml.

[12] Department of National Defence, B-GJ-005-307/FP-030, *Peace Support Operations* (Ottawa: DND 2006), 4-1, 4-2.

Canada's CP-140 Aurora is the right platform to fill the UN peacekeeping aerial ISR requirement and, with the mission in Afghanistan over, Canada has a strategic opportunity to contribute it.

In order to prove this thesis, this essay will be split into three parts. First, it will examine why aerial ISR can make peacekeepers safer and more effective. It will then look at the capability of the CP-140 and why, with its world class sensor suite, exceptional performance, multi-mission capability, and international credibility, it is the right platform for the job. Finally, because cost cannot be ignored, this essay will show the reader why, strategically, it makes sense for Canada to make this contribution.

BENEFITS OF AERIAL ISR

> *Where peace operations fail, thousands may die and hundreds of thousands may be displaced, inter-state tensions may increase and conflicts may reignite. But where peacekeeping succeeds, we can create the conditions for lasting stability and strengthen the foundations for our shared security.*
>
> - United Nations Department of Peacekeeping Operations, *Charting a New Horizon for UN Peacekeeping*

Making Peacekeepers Safer

Thirty percent of all deaths during peacekeeping operations are from malicious acts.[13] Aerial ISR has the potential to improve safety for peacekeepers by providing early warning of

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[13] Walter A. Dorn, *Tools of the Trade? Monitoring and Surveillance Technologies in UN Peacekeeping* (New York: United Nations Department of Peacekeeping, 2007),14.

pending hostilities. The human observer can only see as far as visibility, terrain, and physiological ability allows. If hostilities develop in a hilly region such as Haiti, where the lowest elevation is reported to be below sea level and the largest peak topping out at 8,793 feet, with rolling terrain above six hundred feet spanning three quarters of the country,[14] the peacekeeper will be limited to information he can gather from line of sight visibility. If the peacekeeper does not have information on what is occurring in the distance or around the corner, he[15] may find himself at risk of attack. Aerial ISR can overcome this limitation by virtue of being able to see over the horizon in daylight and darkness, and thus can provide the peacekeeper with information on pending ambushes, large expenditures of ammunition, and unannounced movement of forces.[16] According to the UN Secretary General, UNIFIL[17] is the most dangerous UN peacekeeping mission. Peacekeepers have been "attacked again and again."[18] According to LCol Bash, these attacks could have been avoided with timely information. Aerial ISR could have provided the force commander with early warning to help determine the aims of the disputing parties thus preventing the attacks.[19] In 2006 this was proven when helicopter spotters were able to warn MONUC[20] ground troops of stealthily approaching militia fighters. This effective use of early warning prevented a surprise attack and probable causalities.[21]

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[14] Wikipedia, "Geography of Haiti," Last accessed 15 April 2014. http://en.wikipedia.org/wiki/Geography_of_Haiti#Physical_geography.

[15] It is recognized that peacekeeping is not limited to male participation however for simplicity this essay will refer to the peacekeeper with the masculine pronoun.

[16] Brooks L. Bash, "Airpower and Peacekeeping," *Airpower Journal* VIV, no.1(Spring 1995): 10, http://www.airpower.maxwell.af.mil/airchronicles/apj/apj95/spr95_files/bash.htm.

[17] UNIFIL stands for the UN Interim Force in Lebanon

[18] United Nations Security Council, *Security Council Press Statement on United Nations Interim Force in Lebanon.* (New York: UN, 26 July 2011),1.

[19] Bash, "Airpower and Peacekeeping"…,6.

[20] MONUC stands for United Nations Mission in Democratic Republic of Congo. Now call MONUSCO.

[21] Dorn, *Tools of the Trade? Monitoring and Surveillance Technologies in UN Peacekeeping*…,46.

Making Peacekeepers More Effective

In addition to making peacekeepers safer, aerial ISR can make them more effective. Effectiveness is improved because aerial ISR can collect information when peacekeepers cannot because of mobility and safety factors. It also provides a strong deterrence force to belligerent parties and enables persistence of information gathering which in turn improves accountability, makes disarmament easier, and permits a more proactive vice reactive approach to peacekeeping operations.

Peacekeepers are limited in their mobility and can only be in one place at one time. The peacekeeper can cover a ten to fifteen mile radius on a five to six hour patrol.[22] This is significant when operating in a region such as DRC which covers a square km distance of 2.3 million and is burdened with weak infrastructure.[23] Belligerents conducting illegal operations are typically dispersed making it nearly impossible for the peacekeeper to keep tabs on all activity, all the time. [24] Aerial ISR can overcome this. The day and night sensors improve visual range and information gathering beyond the human eye. Altitude enables information to be gathered safely away from conflict and improves the capability to see beyond the peacekeepers horizon, less impeded by terrain. The speed and range of an aircraft ensure vast territory can be covered in a shorter time, unobstructed by poor roads thus increasing the information mobility far beyond the capacity of a human observer.

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[22] Better World Campaign, *The UN's use of Unmanned Aerial Vehicles in the Democratic Republic of the Congo: U.S. Support and Potential Foreign Policy Advantages* (Washington DC: May 2013), 5.
[23] The Carter Center: Waging Peace, Fighting Disease, Building Hope, "Democratic Republic of Congo," Last Accessed 10 May 2014, http://www.cartercenter.org/countries/democratic_republic_of_congo html. And Dorn, *Tools of the Trade? Monitoring and Surveillance Technologies in UN Peacekeeping…*,43.
[24] Dorn, *Tools of the Trade? Monitoring and Surveillance Technologies in UN Peacekeeping...,*87.

Operating in some of the most hostile regions of the world,[25] peacekeepers find themselves in situations where, due to safety, they are unable to collect information. Unfortunately, these are the situations that need the peacekeepers the most. During a rebel attack in Kiwanja in 2008, peacekeepers were forced to abandon patrols because rebels and militia fighters had opened fire with heavy weapons which exceeded the limits of the peacekeepers protection.[26] Meanwhile, less than a kilometer away, over one hundred and fifty civilians were massacred, tragically unbeknownst to the peacekeepers until it was all over.[27] Aerial ISR, operating safely at altitude away from the action, could have fed information to peacekeepers keeping them abreast of the situation. Would it have really mattered in this case, given the degree of atrocities that were taking place and the limits of their mandate? Improved situational awareness does make UN forces more effective in these circumstances. According to Dr Walter Dorn, "Far from creating a bunker mentality, technical means can make UN peacekeepers more proactive, since they would benefit from increased knowledge of their local areas and adopt more preventative tactics when venturing into new ones."[28]

The use of aerial ISR will create a deterrence effect. The airborne presence of an ISR aircraft will make it more difficult for the dissenting parities to anonymously disrupt agreements and operations.[29] Even more important is the effect created when the aircraft is not visible. Because aircraft can operate at altitude and at a considerable distance away from the illegal activity simply the knowledge that someone may be watching would have a significant

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[25] Forbes. "World's Most Dangerous Countries." Last accessed 08 May 2014.
http://www.forbes.com/2009/03/04/most-dangerous-countries-lifestyle-travel_dangerous_countries.html.
[26] Lydia Polgreen, "A Massacre in Congo Despite Nearby Support," *The New York Times,* 11 December 2008.
[27] *Ibid.*
[28] Dorn, *Tools of the Trade? Monitoring and Surveillance Technologies in UN* Peacekeeping…,70.
[29] Bash, "Airpower and Peacekeeping"…,8.

deterrence effect.[30] Aerial deterrence is being proven in the DRC. Since the deployment of Unmanned Aerial Vehicles (UAVs), there has been a significant rise in the defections of the M23 movement.[31] Those who know or think they are being watched are far less likely to threaten peace.[32]

The ability to operate at altitude, cover great range, and loiter for an extended period of time makes aerial ISR persistent. This improves effectiveness by improving accountability, easing the process of disarmament, and by enabling a proactive vice reactive approach to peacekeeping.

The inability to hold disputing parties accountable is a significant barrier to the effectiveness of peacekeeping missions. Undetected minor retributions lead to greater revenges which eventually lead to uncontrollable escalation of the mission.[33] The UN must use the most rigorous verification system possible to identify violators of peace and perpetrators of human rights verifications.[34] The limitations of the human verification system, as discussed thus far, make it inadequate to fulfill this capability. Aerial ISR, because of its persistence, can provide some of the data to assist in meeting the standard of verification, enabling justice.

"Disarmament of unwilling parties is one of the most important yet the most difficult challenges in peacekeeping."[35] Disarmament is critical to stabilization, long term development

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[30] Dorn, *Tools of the Trade? Monitoring and Surveillance Technologies in UN Peacekeeping*…,44.
[31] United Nations News Center, "UN Launches Unmanned Surveillance Aircraft to Better Protect Civilians in Vast DR Congo," Last accessed 22 March 2014, http:www.un.org/apps/new/story.asp/html/story.asp?NewsID=46650&Cr=democratic&….
[32] Bash, "Airpower and Peacekeeping"…,8.
[33] *Ibid.*,7.
[34] Dorn, *Tools of the Trade? Monitoring and Surveillance Technologies in UN Peacekeeping*…,68.
[35] Walter A. Dorn, "Technology for Peacekeeping: Tools of the Trade?" *Peace Magazine* 23, no.3 (July-September 2007):17. http://peacemagazine.org/archive/v23n3p16 htm.

and has been a prominent task in UN mandates for the last twenty years.[36] According to Dorn, disarmament [and peace] requires a means of effective international control. In order to gain international control, a system of information gathering must be in place.[37] The significant information gaps inherent in human observation make it an inadequate means to develop international control. The persistent nature of aerial ISR (plus its other virtues) will significantly improve the international control and thus improve the disarmament process.

Finally, the persistent nature of aerial ISR enables peacekeeping forces to be proactive rather than reactive. The UN is quick to admit that it too often has found itself in the dark with respect to spoiler intent, arms and militia movements, and other rebel activity. This leads to only being able to react to the violations after the atrocities are plain to see.[38] According General Romeo Dallaire, UN Force Commander during the 1994 Rwandan Genocide:

> …We found ourselves working in an information vacuum, at times groping in the dark to identify and confront shadowy forces and unofficial networks that only became apparent after the genocide began.[39]

Aerial ISR can provide early warning and information on belligerent activity. This information can be used by the commander to ensure that he has the right people in the right place at the right time to prevent tragedy before it occurs.[40]

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[36] United Nations, "Disarmament, Demobilization, and Reintegration," Last accessed 08 May 2014, http://www.un.org/en/peacekeeping/issues/ddr.shtml.
[37] Walter Dorn, "Satellite, and Airborne Surveillance for Arms Control, Verification, Peacekeeping, Crisis Monitoring and Sovereignty," Last accessed 08 May 2014, http://walterdorn.net/pub/24.
[38] Dorn, *Tools of the Trade? Monitoring and Surveillance Technologies in UN* Peacekeeping…,15-16.
[39] Walter A. Dorn, *Keeping Watch: Monitoring, Technology, and Innovations in UN Peace Operations* (New York: United Nations University Press, 2011), xvii.
[40] Patrick C. Cammaert, "Intelligence in Peacekeeping Operations: Lessons for the Future." In *Peacekeeping Intelligence: Emerging Concepts for the Future,* ed. Ben de Jong, Wies Platje, and Robert David Steele, 11-30. (Virginia: OSS International Press, 2003),13.

Political Challenges of Aerial ISR

Aerial ISR can make peacekeepers safer and more effective, but what about the political challenges associated with it? Right now the use of airborne intelligence gathering in DRC is ruffling feathers in neighboring Rwanda who, having been accused of illegal resources extraction and the backing of the M23 militia, is rightfully concerned about airborne ISR in the vicinity of its borders.[41] Concerns exist over what information will be gathered, how the information will be used, and who will have access to it.[42] These challenges can be overcome with a clear mandate, promotion of aerial ISR though a strong public campaign, and by adhering to current information gathering procedures.

Aerial ISR missions must be clearly expressed in the mandate and rules of engagement prior to the commencement of the mission.[43] This will ensure consent by both parties and provide clear direction to the aircrew and analysis team on the type of information to be acquired. If the crew or analyst were to observe information outside the prescribed mandate, they could implement a "shutter control" procedure which would oblige them to turn off the camera/discard the illegitimate information.[44] If the information gained was outside of the mandate, but was vital for the protection of UN forces on the ground, the collection and dissemination of the data could be done under the tenant of self defence. Mandating adds an additional benefit; the "acceptance of parties to objective but intrusive monitoring is one

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[41] Amy Calfas, "IntelBrief: Unmanned Peacekeeping: Are Drones the New Blue Helmets?" *Atlantic Council,* January 14, 2014, 3.
[42] *Ibid*
[43] Center on International Cooperation, *Thematic Series on Building More Effective UN Peace Operations: Technological Innovations and Peace Operations (*New York: Center on International Cooperation, 2013),3.
[44] Walter A. Dorn, email, 7 May 2014.

important test of their political commitment to carry out the peace accords."[45] Thus mandating

the aerial ISR capabilities adds an additional commitment by the disputing parties and

confidence to the UN of co-operation in the mission.

A strong information campaign would ensure public support of aerial ISR.

Understandably there are concerns over privacy; however the innocent populations in locations

where peacekeeping operations occur want lasting peace. Domina Maniriho, a 37-year-old

mother of six from DRC says, "we eagerly wait for the guns to fall silent, for Laurent Nkunda's

[forces] to give up their arms and we will return to our homes."[46] Educating the population that

the use of aerial ISR is not a covert intelligence gathering tool, but that it is a source of

information to help peacekeepers do their jobs better and bring this wanted peace, the use of ISR

aircraft will not only become acceptable but will also instill the confidence essential to building

peace.[47]

Information gathering, analyzing, and dissemination are not new concepts to the UN.

While information has traditionally come from the human domain in the form of ground

observation, the products obtained through aerial ISR can be considered merely an additional

source of information and can be handled according to current procedures.[48] Further, by ensuring

the information remains with the UN, peacekeeping forces will safeguard it as an impartial tool

for decision making.[49]

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[45] Dorn, *Tools of the Trade? Monitoring and Surveillance Technologies in UN* Peacekeeping…,8.
[46] IRIN: Humanitarian News and Analysis, "DRC: The Displaced just want Peace," Last accessed 07 May 2014, http://www.irinnews.org/report/76364/drc-the-displaced-just-want-peace .
[47] External Afairs and International Trade Canada, *Overhead Remote Sensing for United Nations Peacekeeping* (Ottawa: Intera Technologies Ltd, 1990),4.
[48] External Afairs and International Trade Canada, *Overhead Remote Sensing for United Nations Peacekeeping…*,7.
[49] *Ibid.*,5.

THE CP-140 AURORA

> *Peace cannot be achieved through violence; it can only be achieved through understanding.*
>
> -Ralph Waldo Emerson

Originally used as a maritime patrol and antisubmarine warfare platform, a decade of upgrades has transformed the CP-140 into an aircraft capable of conducting a multitude of tasks both overwater and overland. Its world-class sensor suite, exceptional performance characteristics, multi-mission capability, and the credibility it brings to operations make it an excellent platform for aerial ISR in UN peacekeeping operations.

CP-140 Sensors

The CP-140 upgraded sensor suite makes it one of the best ISR platforms in existence.[50] In addition to its traditional maritime sensors, the modernized CP-140's are equipped with the WesCam MX-20 Electro Optics Infrared Camera (EO/IR), Overland Electronic Mission Suite (OEMS), and upgraded Airborne Imaging Radar System (AIRS) radar.[51]

The WesCam MX 20 EO/IR is a gyro stablalized camera which can passively sense, both day and night, visual land and infrared radiation from objects of interest. It provides high

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[50] Air Force Association of Canada, "01/2013 C4ISR," Last Accessed 10 May 2014, http://airforce.ca/advocacy/position-papers/2013/012013-c4isr/.

[51] Radio Communication and Signals Intelligence in the Royal Canadian Navy, "CP-140 Aurora Electronics Suite," Last modified 26 October 2013, http://jproc.ca/rrp/index html.

magnification color and monochrome TV camera as well as an infrared camera, with step zoom capabilities.[52] According to Lieutenant- Colonel Jason Major, on a clear day it has the capability to passively identify a person carrying a weapon on the ground.[53] It has one of the best standoff ranges of any commercial camera.[54] It can view a ship polluting, take a 360 degree view of the scene, all without ever being seen by the operator of the vessel.[55]

The OEMS provides smart cueing for the EO/IR and improves imagery by embedding event markers on the final imagery. It allows the imagery to be digitally stored and enables basic analysis in flight with final download upon mission completion.[56] Tactical common data link enables video feed to be transmitted directly to remote video receivers or surface terminal equipment. This capability enables remote users on the ground to take control of the camera as required.[57] Included in this suite is an Automatic Identification System (AIS) package which provides real time position of shipping traffic.[58]

The Airborne Imaging Radar System (AIRS), in addition to being useful for maritime surveillance, navigation, and weather detection, is able to land and sea spot.[59] Not impeded by moisture, it can provide quality shots of terrain at great ranges and provide enhanced returns from tanks, buildings, and parked aircraft.[60] A news release dated 24 March 2014 announced a

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[52] *Ibid.*
[53] Ken Pole, "Aurora's Appeal," *Skies*, 21 March 2012.
[54] *Ibid.*
[55] *Ibid.*
[56] Daniel Arsenault, and Josh Christianson, "Punching Above its Weight: The CP140 Aurora Experience within Task Force Libeccio and Operation MOBILE," *The Royal Canadian Air Force Journal* 1, no.3 (Summer 2012): 29.
[57] *Ibid.*
[58] *Ibid.*
[59] Radio Communication and Signals Intelligence in the Royal Canadian Navy, "CP-140 Aurora Electronics Suite"…
[60] Arsenault, and Josh Christianson, "Punching Above its Weight: The CP140 Aurora Experience within Task Force Libeccio and Operation MOBILE"…, 34.

contract which will see the CP-140's equipped with new high resolution radar surveillance system capable of detecting, locating, and classifying both land and marine based object such as cars, trucks, and ships.[61]

This sensor suite could provide unprecedented intelligence to peacekeeper. During overland operations in Libya, while embarked on the CP-140, Alan Lockerby describes being able to observe:

> a truck mounted anti-aircraft gun firing from cover in an area controlled by Ghadaffi loyalist towards approaching opposition forces…we observed the gun crew leapfrog the vehicle between different firing positions, convers with observers located on a nearby rooftop, and replenish their ammunitions in a concealed assembly area…we were able to assess the gun crew's activities and advise the air operations center.[62]

This level of detailed information that can be provided by the CP-140's extensive electronics suite undoubtedly will make the peacekeeper safer and more effective.

Such a world class ISR platform is only as good as its mission analysis. This is not an issue for the CP-140 which, self-sufficient, arrives in theater with its own Deployable Mission Support Center (DMSC). Installed in "a modest, olive, drab sea container," when set up it houses a fully classified network server, reach back to headquarters, multiple computer workstations, printers, charts-plotters, a briefing space with projector, very/ultra/ high frequency,

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[61]Defence Watch, "MacDonald, Dettwiler and Associates Signs $64 Million Contract for RCAF CP-140 Aurora Radar Systems, *Ottawa Citizen (Blog),* March 24, 2014, http://blogs.ottawacitizen.com/2014/03/24/macdonald-dettwiler-and-associates-signs-64-million-contract-for-rcaf-cp-140-aurora-radar-systems/.

[62] Alan Lockerby, "SCAR-C Over Libya-To War in an Aurora," *Canadian Military Journal* 12, no.2 (Summer 2012): 65.

and satellite phone.[63] Set up in less than six hours, it is climate controlled to enable uninterrupted operations in the most extreme weather and it is un-reliant on power sources as it can be powered by a diesel generator if required.[64]

CP-140 Performance

Arguably some of these sensors could be loaded on smaller and less expensive platforms. What makes the CP-140 truly unique and superior as an ISR platform for the UN is its unmatched performance, multi-mission capability and credibility. It is beyond the scope of this paper to do a full comparative analysis with different aircraft, thus this section will focus on the capabilities of the CP-140 which separate it from the rest.

The CP-140 payload enables it to carry its impressive suite of sensors, a full crew complement, a maximum fuel load, while still having the capacity to carry onboard observers.[65] This is extremely important for the immediate airborne analysis of information. In order to be authoritative and useful for making judgments on non-compliance, the information gathered must follow stringent procedures.[66] As a minimum, two or three military observers would need to be embarked to assist in airborne analysis in order to fulfill this requirement.[67] Capable of

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[63] Arsenault, and Josh Christianson, "Punching Above its Weight: The CP140 Aurora Experience within Task Force Libeccio and Operation MOBILE"…,28.

[64] *Ibid.,*52.

[65] Department of National Defence, C-12-140-012/MB-001, *CP-140 Aircraft Operation Instructions,* (n.p.: Canada, n.d.) Part 1, Section 1, Para 4, and Table 4-90-8. NOTE: Due to controlled nature of this document, refs were obtained via email with OC LRPSET.

[66] Michael Krepon, and Jeffery P. Tracey "'Open Skies' and UN Peacekeeping," *Survival: Global Politics and Strategy* 32, no3 (May/June 1990): 261

[67] *Ibid.*

carrying an additional twelve persons on top of the minimum crew, this requirement poses no challenge to the CP-140.[68]

The CP-140 has a range of approximately 4,300 nautical miles with a realistic endurance of approximately 12 hours.[69] This enables the aircraft to operate in hostile areas, yet be put away for the night in a safe location, while still having useful endurance to conduct the mission.[70] During a situation such as the genocide in Rwanda, where the Kigali airport was almost unusable due to fire by hostile parties,[71] this would be an invaluable capability in order to prevent damage to the aircraft, injury to crew, and to minimize lost missions due to the aircraft being unable to depart because of ongoing hostilities.

Further, the CP-140's exceptional range and endurance enables it to go beyond a "go and look" mission and conduct "go and watch" operations.[72] Aircraft with limited range/endurance may have a useful operational time of 3 to 4 hours.[73] While still beneficial, it would limit their role to periodic reconnaissance of areas of interest. The CP-140 can do the work of a true surveillance aircraft by remaining overhead for extended time. Surveillance vice reconnaissance

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[68] Commander 1 Canadian Air Division, CDN Air Div Manual 30-800, *Long Range Patrol Standard Manoeuvre Manual* (Winnipeg: 1 Canadian Air Division, 15 August 2010), 1-8, 1-11.
[69] *Ibid.*, 1-8.
[70] Bash, "Airpower and Peacekeeping"…,10.
[71] Romeo Dallaire, *Shake Hands with the Devil: The Failure of Humanity in Rwanda* (New York: Carroll & Graf Publishers, 2005), 378,408.
[72] Arsenault, and Josh Christianson, "Punching Above its Weight: The CP140 Aurora Experience within Task Force Libeccio and Operation MOBILE"…,30.
[73] External Affairs and International Trade Canada, *Overhead Remote Sensing for United Nations Peacekeeping...,*41.
 Note – while the ref quotes five to six hours the useful time has been extrapolated by the author to assume a transit time in from home base to useful surveillance time.

enables analysts to better grasp patterns of life and more accurately identify objects of interest which will ultimately provide a better product for the peacekeeper.[74]

The higher an aircraft can fly, the further it can see. This is important if it is desirable to have the aircraft conduct ISR undetected by belligerents, if the observers want to get a broad view of a large swath of the region, or if required in order to conduct operations out of harm's way. While the CP-140 sensor effectiveness is classified, generic advanced aerial observation equipment can provide a resolution of one meter or better at three thousand feet.[75] Thus, capable of operating at altitudes as high as thirty-four thousand feet,[76] the distance the CP-140 can see is likely limited only by sensor capability.

In addition to flying high, the CP-140 can be operated in the low-level environment. Operated over water at 200 feet above sea level and overland at 300 feet above ground level,[77] the CP-140 can be used to conduct low level photo operations as well as provide a visible "international eyes on the scene" which can halt illegal activities in their tracks.[78] Listed as one of the strengths during Operation Artiemis, the show of force and presence by an impressive

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[74] Arsenault, and Josh Christianson, "Punching Above its Weight: The CP140 Aurora Experience within Task Force Libeccio and Operation MOBILE"…,30.

[75] Dorn, *Tools of the Trade? Monitoring and Surveillance Technologies in UN* Peacekeeping…,44.

[76] Department of National Defence, C-12-140-012/MB-001, *CP-140 Aircraft Operation Instructions* …, Part 1, Section 11, Para 38. NOTE: Due to controlled nature of this document, refs were obtained via email with OC LRPSET.

[77] Commander 1 Canadian Air Division, CDN Air Div Manual 30-800, *Long Range Patrol Standard Manoeuvre Manual*…,1-24, 1-32.

[78] Dorn, *Tools of the Trade? Monitoring and Surveillance Technologies in UN* Peacekeeping…,44.

aircraft reinforced the credibility of the mission.[79] A CP-140 conducting a low pass at maximum speed has the capability to create such an effect.[80]

The UN prohibits night time aerial operations because it does not have a night search and rescue (SAR) capability and it is adverse to sending aircraft without weather radar due to the unpredictable weather at night in many regions of operations.[81] Night however is the most important time to be conducting aerial ISR as belligerent troops can hide their illegal activities under the cover of darkness and the pre-dawn period provides an excellent opportunity to attack.[82] The second worst attack on MONUC forces occurred during this time. Shortly after six am, eight Guatemalans were killed in a firefight while searching for member of the Lord's Resistance Army troops who had infiltrated from Uganda.[83]

Capable of conducting night ISR, the CP-140 can enable nocturnal aerial operations. SAR capable, the CP-140 can operate in this capacity both for itself and for other complementary air assets, overcoming the UN Search and Rescue restrictions. During OP MOBILE the CP-140 operated in a secondary SAR role, carrying two ten person survival-kit-air-droppable (SKAD)'s in the bomb-bay on each mission.[84] UN concerns over weather are not an issue as the CP-140

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[79]United Nations Peacekeeping Best Practices Unit, *Operation ARTEMIS: The Lessons of the Interim Emergency Multinational Force* (New York: UN, 2004),13.
[80] UTube, "CP-140 Aurora Low Pass," Last Accessed 10 May 2014, https://www.youtube.com/watch?v=SH_xyW9Z4j8.
[81] Dorn, *Tools of the Trade? Monitoring and Surveillance Technologies in UN Peacekeeping…*,45.

[82] *Ibid., 47-48.*
[83] *Ibid.*,47.
[84] Arsenault, and Josh Christianson, "Punching Above its Weight: The CP140 Aurora Experience within Task Force Libeccio and Operation MOBILE"…,31.

has an onboard weather detection system,[85] and the radar has integrated weather detection capabilities[86]

A single engine or dual engine aircraft with a full payload is a nighttime liability to the UN. The CP-140, with its four engines and multiple redundant aircraft systems mitigates most risk surrounding the UN's night concerns. The 2012 National Transport Safety Board statistics show that there are 6.8 general aviation crashes per 100,000 flying hours.[87] While many light aircraft crash annually, the RCAF has never had a catastrophic loss of a CP-140 since their inception in the early 1980s.

The benefits that a permanent night ISR capability could bring are immense. When the UN permitted a night ISR flight by a MI-35 helicopter, the UN and the Congolese government forces were able to regain control of the town of Sake with no dead or wounded UN solders. The results were 20,000 inhabitants of the town were able to return.[88]

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[85] Canada. Department of National Defence, C -12-140-012/MB-002, CP-140 Aircraft Operation Instruction (n.p.: Canada, n.d), Part 1, Section 70 . NOTE: Due to controlled nature of this document, refs were obtained via email with OC LRPSET.
[86] Radio Communication and Signals Intelligence in the Royal Canadian Navy, "CP-140 Aurora Electronics Suite"…
[87] National Transportation Safety Board, "Review of Accident Data," Last accessed 09 May 2014, http://www.ntsb.gov/data/aviation_stats.html.

[88] Dorn, *Tools of the Trade? Monitoring and Surveillance Technologies in UN* Peacekeeping…,48.

CP-140 Multi-mission Capability

UAV's are more economical to operate then the CP-140.[89] The CP-140 has two key benefits that make it worth the higher cost: its multi-mission capability; and the international credibility it brings to operations.

The CP-140 has proven its capability in the following domains: overland and maritime ISR, command and control, navel gunfire support, SAR, maritime interdiction both surface and subsurface, overland strike co-ordination and reconnaissance-coordinator (SCAR-C), psychological operations, counter narcotics, fisheries, and sovereignty patrols.[90] Besides the ability to be re-tasked or used for any of the above missions, the real virtue that a multi-mission platform brings to peacekeeping operations is its ability to gather information from all of its sources to provide the most accurate picture available to the soldiers below.[91] CP-140 crews proved this during OP MOBILE in Libya. They conducted overland ISR with the MX-20 camera, while monitoring vessels of interest via AIS and radar, while conducting psychological operations to belligerents over the communications systems.[92]

CP-140 Credibility

The other benefit that makes the CP-140 superior is its credibility. An established system of ISR, the CP-140 and its operators have proven themselves both at home and abroad,

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[89] *Ibid.,51.*

[90] Arsenault, and Josh Christianson, "Punching Above its Weight: The CP140 Aurora Experience within Task Force Libeccio and Operation MOBILE"…,27.

[91] Arsenault, and Josh Christianson, "Punching Above its Weight: The CP140 Aurora Experience within Task Force Libeccio and Operation MOBILE"…,30.

[92] *Ibid.*

participating in high profile operations including the Red River floods, the Vancouver Olympics, the G-8/G-20 summits, OP SHARP GUARD, and OP APOLLO.[93] Most recently they received the highest accolades for their work during OP MOBILE, where it was not uncommon to see Canadian CP-140 imagery products being praised at higher headquarters for being an important part of the intelligence picture.[94] This credibility is extremely important to give confidence to the UN Headquarters in the intelligence they receive.[95] One of the most significant challenges that the UN faces is whether or not to intervene… if they do not intervene they may wear the blood of another Rwanda. If they do intervene, and fail, the credibility of the UN is compromised.[96] One of the key early warnings to the UN of the impending Rwanda genocide came in what is now famously known as the "genocide fax." The information in this fax, sent by Dallaire, was based off information given by a rebel informant known simply as "Jean Pierre".[97] In hindsight, Jean Pierre's predictions were disturbingly accurate[98] but at the time, this information, rated by Belgian Intelligence officials as F-6, the lowest reliability, was not credible[99] The CP-140 can provide accurate and detailed intelligence in theses instance, enabling the UN to base its important decisions on trustworthy information instead of questionable information from an unknown informant.

[93] Royal Canadian Air Force, "The CP-140 Aurora: Intelligence, Surveillance, Reconnaissance Aircraft," Last Accessed 07 May 2014, http://www.rcaf-arc forces.gc.ca/en/aircraft-current/cp-140.page.

[94] Arsenault, and Josh Christianson, "Punching Above its Weight: The CP140 Aurora Experience within Task Force Libeccio and Operation MOBILE"…,31.

[95] Cammaert, "Intelligence in Peacekeeping Operations: Lessons for the Future"…, 25.

[96] Walter A Dorn, and M.E. Hanrahan, *The Peacekeepers: Study Guide* (N.P. Pearson Peacekeeping Centre with the support of Foreign Affairs Canada, 2006),7.

[97] Michael Dobbs, "The Shroud over Rwanda's Nightmare," *New York Times,* 9 January 2014.

[98] *Ibid.*

[99] Alan J. Kuperman, *The Limits of Humanitarian Intervention.* Washington (The Brookings Institution ,2001),104.

WHY CANADA SHOULD CONTRIBUTE?

We need action not only to end the fighting but to make the peace.

-Lester B. Pearson

Thus far it is evident that aerial ISR can make peacekeepers safer and more effective, and it is clear that the CP-140, with its sensors, performance, multi-mission capability, and credibility, would be an outstanding contribution. The question now turns to the cost; if Canada contributes its CP-140s, who will pay the bill? Given that the annual UN peacekeeping budget is a mere 7.83 billion, making up less the 0.5 % of the overall world military expenditures, not unexpectedly, the primary financial burden would fall to Canada.[100] This is further echoed by Michael Krepon and Jeffery Tracy in their article *Open Skies and UN Peacekeeping* where they state that the use of a larger aircraft [like the CP-140] would be severely disadvantaged in peacekeeping operations due to high costs unless contributed by a donor country.[101] Thus in order to justify the cost, Canada needs a strategic reason to contribute its CP-140s to peacekeeping operations. The next section will argue a case for this by looking at why it is in Canada's best interest to not only return to peacekeeping but also the advantages of doing so by contributing its CP-140s.

Why Peacekeeping?

According to the Canada First Defence Strategy (CFDS), the Canadian Forces has six core missions of which two involve deploying on operations in the international theatre.[102] With

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[100] United Nations. "Financing Peacekeeping." Last Accessed 10 May 2014. http://www.un.org/en/peacekeeping/operations/financing.shtml.
[101] Krepon, and Jeffery P. Tracey "'Open Skies' and UN Peacekeeping"…,255.

Afghanistan over, Canada needs a new mission in order to fulfill the goals of the CFDS.

Peacekeeping makes the most sense for Canada because it best serves Canada's national

interests, it provides an opportunity for international leadership, and finally because Canadians

like it.

Peacekeeping is best suited to Canada's national interests. According to Gerald Hellene,

economic professor at the University of Toronto, "The first priority for a country like Canada,

which depends in such a large measure on the stability and predictability of the international

economic system, must assuredly be the stability and order of the international system."[103] "The

stability and order of the international system depend above all on peace."[104] Therefore, as a

middle trading power, with no immediate threat to domestic territory, Canada's efforts would be

best served by working towards a more stable and peaceful world.[105] This is best achieved

through UN peacekeeping operations, who's aim it is to "help countries torn by conflict create

lasting peace."[106]

According to CFDS, Canada wants to maintain international leadership; UN

peacekeeping operations provide the best opportunity to do this.[107] Peacekeeping in the

contemporary world is relevant. Currently the UN has over "80,000 blue helmeted soldiers from

115 countries in 15 separate peacekeeping operations, from Kosovo, to Lebanon, to the

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[102] Department of National Defence, *Canada First Defence Strategy (Ottawa: DND, 2004), 3.*

[103] Jocelyn Coulon, *Whatever Happened to Peacekeeping? The Future of a Tradition* (Calgary: Canadian Defence and Foreign Affairs Institute, 2010), 49.

[104] *Ibid.*

[105] Fergus Watt, "The Future of Canadian Peacekeeping"… ,1.

[106] United Nations, "What is Peacekeeping," Last Accessed 10 May 2014, http://www.un.org/en/peacekeeping/operations/peacekeeping.shtml.

[107] Department of National Defence, *Canada First Defence Strategy…,9.*

Congo."[108] Aside from the US Department of Defense, the UN is a world leader in troops in the

field.[109] In 2010, Canada lost, for the first time in history, its bid for a seat on the UN council.[110]

According to the UN charter, besides equitable geographic factors, electors shall consider the

contributions of members to international peace and security when deciding who will gain the

non-permanent seat.[111] By re-engaging in peacekeeping operations, Canada can regain its seat as

a key leader and decision maker on one of the largest, most relevant international organizations.

Finally, Canadians like peacekeeping. In a study done by Nanos Research, 52% of

Canadians rated UN peacekeeping as an important role for Canada with 25% rating it 10 out of

10 on a scale of importance.[112] Public support matters because Canadian taxpayers pay the bill,

thus they must be satisfied with the international strategy in order to continue to support the

government. The strategic importance here, while somewhat narcissistic, is that public support

equals votes, and for the government that means re-election.

Why the CP-140?

This provides a summary of why, strategically, Canada should return to peacekeeping,

but why should they put forward an expensive asset like the CP-140 Aurora? Why not just send

boots on the ground as was done in the past? Contributing the CP-140s will cost less in terms of

lives lost, and will give Canada the biggest bang for its expeditionary dollar by taking advantage

of the opportunity to gain valuable training for future domestic operations.

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[108] Michael Byers, "After Afghanistan: Canada's return to UN Peacekeeping," *Canadian Military Journal* 13, no.1 (Winter 2012): 36, http://www.journal.forces.gc.ca/vol13/no1/doc/Byers%20EN%20page%203339.pdf.
[109] Watt, "The Future of Canadian Peacekeeping"…,1.
[110] David Akin, "Canada looses bid for UN Security Council Seat," *Toronto Sun*, 12 October 2010.
[111] United Nations General Assembly, *Charter of the United Nations and Statute of the International Court of Justice* (San Francisco: UN, 1945),4-5.
[112] Byers, "After Afghanistan: Canada's return to UN Peacekeeping"…,37.

Western Culture is no longer tolerant of casualties in expeditionary operations. Former Defence Minister, Peter MacKay said at a November 2013 conference in Halifax: "I think if you polled our population, there was an element of fatigue after Afghanistan and shock that people felt of (seeing) soldiers returning in coffins."[113] Historically, there has been only one incident of a Canadian plane crashing due to hostile action in peacekeeping operations. The crash of "Buffalo 461" took the lives of nine peacekeepers.[114] While tragic, compare this to the over one hundred and twenty-five soldiers on the ground who have died, and the many more who have been injured both physically and mentally during peacekeeping missions, and this makes a strong case for sending the CP-140 to fill the expeditionary billet. Further, because the CP-140 contribution would make peacekeeping safer, if Canada did decide to contribute troops as well, it could put its hand on its heart knowing it was doing all it could to keep its soldier abroad safe. Finally, linking back to the earlier argument on public opinion, appeasing the populations want for less casualties certainly would be favorable for the government at election time. Regardless of motivation, Canada must place a high value on saving lives.

Contributing the CP-140 gives Canada the biggest bang for its expeditionary dollar by providing a training opportunity which will maintain an important capability for future domestic operations. The use of the CP-140 for overland ISR operations is a relatively new skill-set.[115] Any capability, but particularly a new one requires training to get better. While CP-140 proficiency after operations in Libya was high, without adequate training opportunities in

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[113] David Pugliese, "Canada and its Allies are Losing the Will and the Means to Fight Foreign Wars," *Ottawa Citizen,* 20 February, 2014.
[114] Adam, Wallace M. "The Legacy of Buffalo 461" *Airforce Magazine*, Spring 2008, 26-28.

[115] Veterans Affairs Canada, "The Faces of Peace: Veterans of the Canadian Forces," Last Accessed 10 May 2014, http://www.veterans.gc.ca/eng/remembrance/history/canadian-armed-forces/peace.

complex air ISR mission environments, this operational capability will fade.[116] There are

currently very few training opportunities for CP-140 crews to practice their overland skills.[117]

With the most common threat in peacekeeping operations being rifle fire from an AK47 rifle

which has little capability above a thousand feet,[118]peacekeeping provides Canada an

opportunity to acquire these training opportunities and experience in a low threat environment,

while at the same time, satisfying its international requirements

An important benefit of preventing skill fade is that the CP-140 crews will be ready to

engage in the domestic environment when required. The Arctic is changing and, as a result, is

garnering unprecedented international interest.[119] According to Canada's Arctic Foreign policy, a

clear message is being sent that

> …Canada is in control of its Arctic lands and waters and
> takes its stewardship role and responsibilities seriously. Canada continues to stand
> up for its interests in the Arctic. When positions or actions are taken by others that
> affect our national interests, undermine the cooperative relationships we have
> built, or demonstrate a lack of sensitivity to the interests or perspectives of Arctic
> peoples or states, we respond.[120]

With the Arctic covering 40% of Canada's land mass and being home to over 100,000

Canadians;[121] it is in the government's best interest to have a highly capable strategic ISR

capability to protect Canada's homeland and live up to the bold address in the Arctic policy.

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[116] Arsenault, and Josh Christianson, "Punching Above its Weight: The CP140 Aurora Experience within Task Force Libeccio and Operation MOBILE"…,34.

[117] *Ibid.,*31.

[118] Dorn, *Tools of the Trade? Monitoring and Surveillance Technologies in UN* Peacekeeping…,44.

[119] Rob Huebert, *The Newly Emerging Arctic Security Environment* (Calgary: Canadian Defence and Foreign Affairs Institute, 2010), executive summary.

[120] Government of Canada, *Statement on Canada's Arctic Foreign Policy* (Ottawa: Government of Canada, 2010), Conclusion.

[121] Government of Canada. "The Canadian Arctic: Canadian High Commissioner in London Focuses on Canada's Arctic." Last accessed 09 May 2014. http://www.canadainternational.gc.ca/united_kingdom-royaume_uni/bilateral_relations_bilaterales/arctic-arctique.aspx?lang=eng.

Participating in peacekeeping operations with the CP-140 will keep skills honed so it is ready when needed to provide this capability to the government, and in turn to Canadians.

CONCLUSION

This essay has only cracked the surface with respect to the future impact that Canada's CP-140's can make towards future peacekeeping operations. While the focus of this study has been on the ISR capabilities of the CP-140, future study should focus on the ways to maximize Canada's contribution by looking at how the CP-140 could be integrated throughout the entire spectrum of peacekeeping operations. Further, while it is beyond the scope of this paper, research could be done with respect to the logistical aspects of contributing the CP-140 such as command and control and fitting a capability based asset into the current "numbers based" approach the UN uses for force generation.[122]

For now however, by contributing the CP-140 in a primarily ISR role, Canada has a strategic opportunity to make a significant contribution to the international community which will both meet the national interests and earn the country a significant leadership role in the global environment. Whether motivated by self-serving political interests or in the interest of saving the lives of Canadians engaged in expeditionary operations, contributing the CP-140 is sure to garner positive public support. Most importantly, Canada will get the most value for its dollar. Contributing the CP-140s will not only fill the required expeditionary role, but also it will provide a positive training experience in order to prepare for future domestic requirements. The

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[122] Adam C. Smith, and Arthur Boutellis, *Rethinking Force Generation: Filling the Capability Gaps in UN Peacekeeping* in Providing for Peacekeeping no.2 (New York: International Peace Institute, May 2013), 1.

UN needs the CP-140. With its exceptional sensor suite, unmatched performance, multi-mission capability, and distinguished credibility, it is the platform of choice to make UN peacekeepers safer and more effective. No longer should our peacekeepers be inadequately equipped; to do so is to risk their lives and the lives of those who live in the volatile regions they are there to safeguard. The UN needs aerial ISR. With Afghanistan over, the time is right for Canada to contribute its CP-140's to UN peacekeeping operations to make them safer and more effective.

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