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**DRAFT****BRIEFING NOTE FOR THE MINISTER OF NATIONAL DEFENCE****OVERVIEW OF HERBICIDE USE AT CFB GAGETOWN (AGENT ORANGE)****ISSUE**

This briefing note provides an update of the work being done to support the review of herbicide use at Canadian Forces Base (CFB) Gagetown.

**BACKGROUND**

As early as the 1950s, herbicides were used in very large volumes worldwide. At that time, no reported adverse effects on human or animal health were indicated. One of the herbicides used had chemical mixtures similar to an American military product that would later be named Agent Orange. Agent Orange is an unapproved, military (non-commercial) chemical for which the exact composition is not registered, but the primary chemical composition is identified as a 50/50 ratio of two chemicals – 2,4-D and 2,4,5-T.

**CFB Gagetown:**

CFB Gagetown is an Army training base. The base was created to provide the Canadian Forces with a large training base (1100 square kilometres) that offers all types of terrain from mountains in the south to a relatively flat profile in the north. The base can accommodate individual and collective training up to the division level (10,000 soldiers). The base is used for helicopter pilot training, artillery, infantry, armoured, and engineering training, both dry (using blanks) and live, mounted and dismounted, and can effectively conduct exercises that incorporate all munitions currently in the Army inventory.

CFB Gagetown is also home to the second battalion of the Royal Canadian Regiment (2RCR) consisting of approximately 600 infantry soldiers and equipment that form the Immediate Reaction Unit for Atlantic Canada able to move on 6 hours notice in the event of a domestic incident or accident, (i.e. plane crash, prison riot, etc.); 4 Air Defence Regiment (4 Air Def Regt) with approximately 400 regular and reserve soldiers who provide anti-aircraft protection for infrastructure and on the battlefield, (i.e. G8 summit in Kaniniskis, Alberta); 4 Engineering Support Regiment who are field engineers who provide mobility with bridges, minefield clearance and road construction; as well as counter mobility such as route denial; vertical construction such as electrical wiring, plumbing and building construction; and, water purification; the Land Forces Trials and Evaluation Unit that conducts trials and evaluations for all new equipment being introduced to the Army; and, the only Army Meteorological unit.

Agent Orange Testing:

In 1965 the US Department of Defense and the Canadian Forces initiated discussions on the possibility of testing various military defoliants at CFB Gagetown. Since CFB Gagetown had already established a program to control the re-growth of vegetation in the training areas and ranges, it was agreed that this testing would take place.

In June 1966 and June 1967, aerial spray tests were conducted at CFB Gagetown by DOW Chemical, under contract to CFB Gagetown, ~~under the guidance~~ of personnel from the Biological Sciences Laboratory, Fort Derrick, Maryland. At the time, CFB Gagetown measured 427 square miles, 80 percent of which was heavily forested.

Initial tests were conducted from 14 to 16 June 1966, on a western portion of the base. The test patch was four miles long and 1,200 feet wide, with each of the 116 test plots measuring 200 feet by 600 feet with a 100-foot buffer between each plot. This entire test area represented only 0.03% of the Gagetown Base. Plots were flagged for the pilot with plot markers and by Canadian soldiers acting as flagmen marking the four corners of the plots. Records show that spraying was conducted when there was little or no wind. US Army and contracted helicopters only sprayed 107 plots, leaving the other nine plots as check plots. In total only one 55 US gallon drum of Agent Orange and one 55 US gallon drum of Agent Purple (similar formulation to Agent Orange but with higher dioxin levels) were tested.

From 21 to 24 June of 1967, 50 plots, each measuring 200 feet by 600 feet with a 200 foot buffer zone between adjacent plots was used to test 15 different herbicides. This represented only 0.015 % of the base area. Included therein was 18 US Gallons of Agent Orange. To the best of our knowledge, based on all documentation researched to date, these two instances are the only times that Agent Orange or any other US military defoliants or desiccants were tested on any CF base.

While Canadian Forces (CF) personnel participated in the conduct of the tests (but not as human subjects), there is no evidence that civilians in the adjoining communities were placed at risk. Anecdotal information indicates that DND hired civilians (some were summer students) to clear the vegetation after the herbicides had taken effect. As at the writing of this briefing note, four pensions have been awarded to former military members, by Veterans Affairs Canada, for exposure to Agent Orange at CFB Gagetown.

Between 1966 and 1985, it is estimated that over 150,000 Canadian Forces personnel were trained at CFB Gagetown. It may not be possible to determine the names of everyone who served or trained at CFB Gagetown during and since the testing because there are no nominal rolls that date back to the mid 1960s.

Secondary Growth Control Program (Herbicide Spraying at CFB Gagetown):

It is important to note that since 1956, CFB Gagetown has had an extensive secondary growth control program to ensure that the re-growth of vegetation in the base training areas and ranges is managed and minimized. This program continues to present day.

With the exception of the US testing in 1966 and 1967 the base has only used regulated, approved, commercial products to control vegetation growth, and these herbicides were sprayed by contracted, licensed spray companies. For at least four years, CFB Gagetown used an approved, commercial herbicide that was comprised of equal parts of 2,4-D and 2,4,5-T, the same two chemicals as Agent Orange in the same ratio. For five years the base sprayed 2,4,5-T that became the subject of extensive investigations beginning in the 1970s when certain samples were found to be contaminated with dioxins. In 1985 manufacturers withdrew the chemical from North American registrations. There is no evidence to suggest that the effects of dioxins were known in the 1950s and 60s.

The herbicide spray program, or secondary growth control program, at CFB Gagetown has involved spraying thousands of litres of commercial herbicides over selected, targeted range and training areas between 1952 and present day. Detailed records exist for this spray program including the type of chemicals sprayed, the quantities sprayed and the exact location of the spraying by year.

#### Agent Orange Questions of 1981:

On January 23, 1981, CBC television ran a story titled, "Agent Gagetown" on <sup>the</sup> "The National," in which it declared that the Armed Forces Surgeon General was promising an investigation into the Agent Orange testing that was conducted on the base in 1966 and 1967. This story was picked up by several print media wherein it was indicated that the same general area of southern New Brunswick had been the focus of years of "raging" debate over the aerial spraying of chemicals to control spruce budworm. <sup>new program</sup>

In June of 1981 four senior medical professionals (epidemiologist, <sup>an</sup> pharmacologist, <sup>a</sup> non-communicable disease specialist and <sup>a</sup> Assistant Deputy Minister of Health for New Brunswick Department of Health) reported to Government <sup>on</sup> their review of the use of phenoxy herbicides in Camp Gagetown in 1966; their examination of any indications of effects on health of the people of New Brunswick; and, the relationship of the use of specific herbicides at CFB Gagetown to the general use of these herbicides, at that time, within Canada.

Their conclusion was, "*From the data available, we are unable to find any evidence of adverse effects on human health attributable to the use of defoliant in Camp Gagetown in 1966.*" In addition their study of vital statistics and hospital morbidity data for Sunbury County, New Brunswick, was conducted to determine if the testing of Agent Orange and other defoliant in 1966 and 1967 resulted in detectable health effects in the population adjacent to the base and it was concluded that, "*the defoliant tests resulted in no significant increase of adverse pregnancy outcome events in the population adjacent to Camp Gagetown*".

In a briefing on the CFB Gagetown Brush Re growth Control Program that was given to the members of the New Brunswick Cabinet in January of 1985, it was indicated that, "*in 1983 Defence Headquarters became concerned over the potential for environmental*

damage due to the migration and persistence of Picloram, the main ingredient in Tordon pellets". The briefing goes on to say that, "This Department has consistently used re-growth control measures in accordance with federal and provincial guidelines. We ensure that the Federal Interdepartmental Committee on Pesticides agrees with the program, that the provincial and federal environment departments approve, and that the contractor and spray project itself are approved and licensed by the province. All of these herbicides are widely used across the country and around the world to assist in the control of brush species."

Barrel Search 1984:

On 12 September 1984, the Sprayers of Dioxin Association informed officials at CFB Gagetown that there were full barrels of herbicides buried on the base. The ensuing investigation confirmed that there were barrels buried on the base. The investigation included a small dig followed by liquid and soil testing completed in October of 1984. The full site excavation was completed in November 1984 with 666 drums unearthed of which 112 contained small amounts of liquid. The liquid was analysed to reveal traces of different herbicides. The liquid was disposed of at the appropriate facility and the drums were rinsed, punctured, crushed and buried in the landfill site, as was the policy of the day.

Soil and ground water was also tested. These results are on record and have been accessed through the Access to Information process within the last few months.

Recent Interest in Herbicide Use at CFB Gagetown:

A CBC news story in February 2002 reported that New Brunswick Power also used "Agent Orange" in the 1950s and 60s to clear leaves from its power lines. The report states that the utility company announced that it would settle a lawsuit brought by a group of workers exposed to the herbicide. The settlement was reported to be approximately \$1 million to be shared among 40 former employees.

Since Agent Orange is a US military product, it is highly unlikely that NB Power would have used this unregistered chemical. As was at the time - NB Power probably used some other herbicide. (2002 + 2005)

In May of 2005, the Minister of National Defence stated, in response to a question in the House, that "We are working to trace every member of the armed forces who was there" and the Minister goes on to say, "We take this very seriously. I can promise the Honourable Member, he says he was at Gagetown, we are working with our forces and we will make sure that anybody who is affected by this will be compensated. My colleague, the Minister of Veterans Affairs, has already done it."

about CFB Gagetown & herbicides spraying

Note that this "compensation" is which the MND refers to the use of Agent Orange. On June 21, 2005, Karen Ellis, Assistant Deputy Minister of Infrastructure and Environment for the Department of National Defence appeared before the Standing Committee on National Defence and Veteran's Affairs (SCONDVA) to discuss the information available on the testing of Agent Orange and other herbicides in 1966 and 1967 at CFB Gagetown. On June 23, 2005, Ms. Ellis held a public meeting at CFB Gagetown in New Brunswick. The Government's approach on this issue was announced shortly thereafter.

Most recently, on Nov 17, 2005 Ms Ellis was invited back to SCONDVA to provide an update on progress to address this against the Court process.

## DISCUSSION

The Government of Canada has announced the appointment of an independent Fact-finding and Outreach Coordinator and three fact-finding tasks. While Mr. Vaughn Blaney, a former Member of the Legislative Assembly in the province of New Brunswick, representing one of the areas around CFB Gagetown, was initially announced as the Fact Finder on August 16, 2005,

On November 16, 2005 the Minister of National Defence announced the appointment of a new Fact-finding and Outreach Coordinator, Dr. Dennis Furlong, a former Minister of Health and Wellness in the province of New Brunswick and a practicing doctor.

A great deal of activity has taken place since the description of the Government of Canada approach was introduced only four months ago.

Over 1200 discreet soil, water and vegetation samples have been taken from several locations across CFB Gagetown. These samples are currently in the process of being analysed. In addition, the Base Commander at CFB Gagetown has invited veterans to assist the base in their search for <sup>buried</sup> barrels. Since several veterans claim to recall where barrels from defoliants were buried on the base, the Commander, along with media in tow, has conducted an extensive search for barrels that <sup>may</sup> remain buried on the Base. While a contractor has conducted a number of exercises, to date, no barrels have been found. A final report is expected early in January 2006.

A tendering process has been completed and a contract is about to be awarded for a <sup>current + former</sup> contractor to search files and work with veterans' associations in an attempt to locate <sup>the military</sup> veterans and <sup>current + former</sup> civilian employees who were present when herbicides were sprayed on CFB <sup>in the</sup> Gagetown from 1952 to present day.

Other contracts are being awarded for ~~contractors to~~ <sup>on</sup> research the handling of herbicides <sup>in</sup> Canada from 1952 to present day, as well as the actual types, and quantities of herbicides that were used at CFB Gagetown over the 53 years in question.

And finally, three types of health studies are being initiated to determine if there are any health consequences as a result of the use of herbicides at CFB Gagetown. First, a toxicological assessment will be conducted to determine what was sprayed, who was exposed, and, how much exposure took place. Second, a contaminated site human health risk assessment will be conducted to see if there is any contamination detected in the soil and ground water at CFB Gagetown. This study will seek to determine what is the risk of harm and to <sup>what</sup> ~~which~~ health effects. And <sup>could be: real, just</sup> ~~finally~~ third, a literature review, epidemiological study and a summary report will be completed.

The health effects of Agent Orange exposure remain controversial. The US Institute of Medicine (IOM) is considered the leading expert in this regard and has found 'associations' between exposure and certain illnesses. Contrary to general public and

media perception, however, the IOM has not found that exposure to Agent Orange is the cause of any illnesses. It is also important to note that the possible associations are based primarily on agricultural and industrial workers with far greater exposure than Vietnam veterans involved in Agent Orange spraying. These Vietnam veterans, in turn, generally had far greater exposure than CF members involved in the Gagetown spraying. The Canadian Forces Surgeon General and her expert staff have confidence in the quality of the Institute of Medicine's analysis and findings.

A recent article by Boehmer et al in the Archives of Internal Medicine studying mortality rates of Vietnam veterans found the following: "Death rates from disease-related chronic conditions, including cancers and circulatory system diseases, did not differ between Vietnam veterans and their peers, despite the increasing age of the cohort (mean age, 53 years) and the longer follow-up (average, 30 years)." The Institute of Medicine, in its 2002 update on Agent Orange, noted "The committee believes that there is sufficient evidence to reach general conclusions about associations between herbicide exposure and the health outcomes, but the lack of adequate data on Vietnam veterans themselves makes it difficult to reach conclusions about increased risk of disease among Vietnam veterans."

Veterans Affairs Canada (VAC) has the mandate to provide a disability pension and health care services to veterans who suffer a service-related illness or disability. A claim for a disability pension as a result of exposure to Agent Orange must follow the same application and adjudication process as for any other claimed condition. The applicant must demonstrate that the condition was associated with exposure to Agent Orange. Where there is uncertainty, VAC's pension adjudication process gives the benefit of the doubt to the veteran.

Between 1995 and 2005, fourteen (14) pensions have been awarded by VAC for Agent Orange exposure. Four (4) of these were awarded as a result of exposure at CFB Gagetown and ten (10) as a result of service in Vietnam. VAC officials have indicated that, depending on the outcome of the work being done through the current Government of Canada approach to review the use of herbicides at CFB Gagetown, they may have new evidence to determine if it is appropriate to formally review cases that have previously been denied.

While there is only anecdotal information to indicate that DND civilian personnel were directly involved or exposed to the testing, those former or currently serving DND employees who claim they have health problems as a result of exposure to Agent Orange ~~will be~~ <sup>are</sup> able to apply for compensation through the Government Employees Compensation Act (GECA), which is administered by Human Resources Skills Development Canada (HRSDC). Civilian contractor personnel could apply through their employer's workers compensation plan. Finally, civilians who live(d) in the area of the base who claim ill effects from the testing would be required to submit a claim against the Crown. The communication outreach strategy for civilian residents around the base has yet to be determined.

We are interpreting the Minister's statement in the House that "We are working to trace every member of the armed forces who was there" to mean that DND will work with VAC to develop a communications strategy to identify those specific CF members who were directly involved in Agent Orange testing as flagmen. With no oath of secrecy associated with exposure to Agent Orange, the ability of these individuals to come forward to VAC to apply for a disability pension if they feel they have an illness associated with the testing is not limited in any way.

## CONCLUSION

Progress towards the determination of the facts surrounding the herbicide spray program at CFB Gagetown will continue with expected results in the eighteen (18) month timeframe. This will result in the provision of the best-informed advice on policy options to the Government. In addition, the Government has announced that it will undertake a longer term (2-3 year) study of herbicide use at all Canadian Forces Bases and Wings across Canada. The Director General of Environment within the Infrastructure and Environment organization in the Department of National Defence is undertaking this longer-term study.

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*Class Action*