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**MEMORANDUM**

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**TO:** CHARLES R ROSS JR.  
**FROM:** VERMONT PESTICIDE ADVISORY COUNCIL THROUGH CARY GIGUERE  
**SUBJECT:** REVIEW OF VEGETATIVE MANGEMENT IN RAILROAD RIGHT-OF-WAYS  
**DATE:** MAY 9, 2016  
**CC:** RAZELLE HOFFMAN-CONTOIS, CHAIR OF VERMONT PESTICIDE ADVISORY COUNCIL

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Secretary Ross:

In the fall of 2015 it was requested that the Vermont Pesticide Advisory Council (VPAC) review and evaluate its current recommendations regarding integrated vegetation management practices within railroad right-of-ways (ROWs) in Vermont. This request was in part to address concerns from members of the public that live, work or recreate near the railroad ROWs in the City of Montpelier, Vermont.

In response to your request, a comprehensive review effort was immediately initiated.

Multiple meetings were held to hear and discuss public concerns and proposed alternative methods of vegetation management. At each meeting, the public, railway personnel, and other stakeholders were provided the opportunity to offer comment, verbally and/or in writing. Minutes of each meeting are posted on the VPAC SharePoint site (publically accessible).

Members of VPAC conducted research into other entities that engage in similar vegetation management activities, and evaluated other potential methods of vegetation control. The Council also determined if any updated information has become available since the 2006 sunset of the VPAC subcommittee on Railroad Vegetation Management Alternatives which resulted in the 2006-2011 Vermont Rail Systems Integrated Management Plan which has served as a model for other plans.

Vegetation management within Railroad ROWs and protection of public health and the environment has long been a major focus of VPAC. This is reflected in many ways, including meeting notes that date back into the 1990s. A review of recent meeting minutes indicates that since April 2013 alone, three meetings were devoted solely to the review of permit applications, and most or all of the following meetings were devoted to discussion of vegetation management within railroad ROWs: July 9, 2014; September 3, 2015; November 12, 2015; January 21, 2016; February 16, 2016 and March 23, 2016.

Based on the recent research effort and associated discussions, we present the following information and conclusions for your consideration.

- The Council holds that its recommendations for railway ROW permits have been consistently protective of public and environmental health. However, VPAC notes that specific public concerns may cause a municipality to wish to further alter activities in specific areas designated by the municipality.

- The Vermont railroad ROW permit process requires that railroad operators submit integrated vegetation management plans that demonstrate that any chemical treatment (products, amounts and areas used) is done in conjunction with other vegetation management techniques to ensure the safe and proper functioning of the rail, while limiting chemical usage to treat vegetation. Each permittee is required to submit an integrated vegetation management plan (IVMP) attached to this plan is the Special Accommodations Form, demonstrating the RR's commitment to take public concerns seriously.
- The goal of the railroad ROW permitting program is to limit the use of herbicides to address only safety and reliability concerns. Therefore, permits are only issued to meet these needs. Treatment, for control of invasive plant species, if not necessary to meet the safety needs, are not justified under these integrated vegetative management plans.
- Although railroad ROWs are not intended as public use areas, VPAC recognized that despite permit conditions, recommendations and regulations designed to prevent/minimize the potential for public exposure, there appears to be an increase in public access/use on or near certain railroad ROWS. In areas where railroad ROWs may intersect with areas where there is high public traffic or areas where there may be high potential for public exposure, additional steps may be taken outside of the permit to reduce the potential for possible public exposure.
- There may be public outreach/pre-established biases regarding use of some newer classes of chemicals, even though they may have improved human toxicity/environmental fate profiles. Technical information and public outreach and information are important components of any vegetation management efforts.
- Research conducted by VPAC, summarized in Appendix A of this memo, has demonstrated that herbicides are an important component of a successful integrated vegetative management plan. While numerous regulatory entities have attempted to manage vegetation within railroad ROWs completely without the use of chemicals, they were unsuccessful at managing the vegetation to the level needed for railroad safety. To our knowledge, no North American railroad has adopted a completely or primarily non-chemical weed control program.
- During the course of this review, VPAC has identified a multitude of uncertainties and challenges associated with vegetation management within railroad ROWs. A compilation of such important factors is presented in Appendix B. For example, the condition of the rail bed significantly impacts the efficacy of any herbicides applied as well as the viability of any non-chemical means of control. Thus, condition of the infrastructure, must be considered in tandem with vegetation management. In addition, mechanical control primarily knocks down the above ground portion of the vegetation. Organic material (such as roots) may remain and accumulate below ground surface in the ballast. Use of mechanical methods could lead to an increased need for chemical control and may not guarantee operational reliability.

- Methods of notification currently required by Vermont Regulations for the Control of Pesticides are outdated. Inclusion of newer technology could allow for empowerment of the individual. However, what methods the public prefers varies and we are limited to the technology available to the Agency. VPAC has pursued and established use of the VT-Alert system as means of notification that will be available for use in the spring of 2016.
- Development of outreach materials describing the design and function of railroad infrastructure, required maintenance and care could be very helpful in increasing the increasing the level of public awareness of the unique vegetation management challenges to RR ROW. A brief summary document could be made available on the VPAC webpage and posted to the VPAC SharePoint. An example of such a document is presented in Appendix C.

Taking all of the information outlined above into consideration, VPAC recommends that the Agency of Agriculture, Food and Markets amend railroad ROW permits to include a provision whereby a governing body of a municipality may request a railroad use alternative vegetation management methods in areas identified as frequently used by the public or with high potential for public exposure. Alternative methods of vegetative management in such areas may include options not specifically evaluated and recommended in permits issued by the Agency of Agriculture, Food & Markets under your authority, but agreed to by the railroad operators and the municipality. The municipality will be responsible for the offset in costs associated for alternate management methods, if chemical approaches have been permitted in the area. Any alternate chemical must be included in the permit application.

Additionally, to limit possible public exposure, VPAC recommends that encroachments in railroad ROW be reduced. During the re-evaluation process, VPAC identified the need for educational outreach to increase public awareness of vegetation control activities that may occur in railroad ROWs and required safety measures for travel. For example, gardening and other activities were identified to be occurring in, or very near, the railroad ROW in Montpelier. These activities are not accounted for in the permitting process, as the areas are not intended to be used by the public. In order to ensure protection of public health and maintain safe and reliable rail passage, such activities should be eliminated to the extent possible.

## ***Suggested Framework***

### ***Areas with high potential for public exposure/high public traffic and development of municipal agreements***

#### ***Definitions***

In 2006, the VPAC subcommittee on Railroad Vegetation Management Alternatives established a working definition of “*sensitive areas*” as sites where environmental or anthropogenic features occur adjacent to the ROW that require additional consideration in order to provide protection from ROW vegetation management activities. Sensitive areas may include surface waters, public and private drinking water supplies, threatened and endangered species, and areas with a high level of human activity.

During the course of this re-evaluation, VPAC identified the need to develop separate definitions for “ecologically sensitive areas” and “areas where there may be high potential for human exposure”. A workable definition should be established for each. Furthermore, while VPAC recommendations have always taken into consideration potential concerns for both public and environmental health, the nature and extent of public awareness and concerns recently expressed indicate that additional policies may warrant development.

#### ***Identification of areas with high potential for human exposure/high public traffic***

VPAC identified the need to develop a set of criteria that may be used to identify areas with “high potential for public exposure”. Such criteria should include at a minimum proximity to schools, daycares, hospitals, playgrounds and other high-use recreational areas as well as areas with high pedestrian traffic such as defined town centers.

Municipalities should actively assist in the identification of relevant criteria. To help determine useful metrics, data could be collected on the number of people that traverse an area, existence of defined sensitive populations (e.g., schools, nursing homes, registered day cares), and any existing mechanisms to effectively restrict access. Methods for doing this may include, but are not limited to:

1. Counting number of pedestrians that traverse a specific area.
2. Use of GIS maps to identify nursing homes, hospitals, school and registered daycares near railroad ROW's
3. Use of GIS maps to delineate Designated Downtowns and Designated Village Boundaries.

#### ***Delineate Rights-of-Way***

1. Identify Encroachments
  - a. Develop agreements about abutting property structures that encroach on the railroad
  - b. Gardens in the ROW
  - c. Other

***Evaluate alternative methods of vegetation control to limit potential public exposure***

1. Chemical alternatives (must be submitted in permit process to VPAC)
  - a. Consideration of Environmental Transport, Fate and Persistence
  - b. Consideration of Toxicity
  
2. Non-chemical alternatives
  - a. Weed Whack
  - b. Hand Pull
  - c. Ballast Regulation
  - d. Ballast Washing
  - e. Other Barriers
  - f. Concrete Ballast
  - g. Rubber Mats
  - h. Other
    - a) Flame
    - b) Steam
    - c) Infra-red
    - d) Freezing

***Notification/Restriction of Public Access***

1. Develop list of acceptable methods of notification in addition to those currently in Regulation.
2. Address notification or restriction of access in areas other than those with high potential for public exposure.
3. Address notification/restriction of access in areas where alternate method of control is used.

***Develop agreement between municipality and railroad operator***

1. Develop cost-share agreement
  - a. Municipality covers cost
  - b. State develops incentives (e.g., Vermont Agency of Transportation)