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for the WINTER MAINTENANCE PROFESSIONAL

WRITTEN SNOW AND ICE CONTROL PLAN AND POLICY DOCUMENTS ARE ABSOLUTELY ESSENTIAL FOR WINTER MAINTENANCE AGENCIES

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This is the first of three articles on snow and ice control plan and policy documents that will appear in successive issues of "Salt and Highway Deicing for the Winter Maintenance Professional." This article will focus on the benefits of having a written plan and policy, the creation process and the approval process. Article 2 will focus on planning and administrative issues, and Article 3 will be devoted to operational and materials management issues.

Creating and maintaining an approved written snow and ice control plan is one of the most important things a highway maintenance agency can do for itself, its governmental entity, its community and its customers. The primary benefits include:

- Agency managers and supervisors are forced to plan ahead. This avoids chaos when difficult situations arise and provides a framework for efficient and effective routine operations.



- As a result of a good planning process, there will be a higher and more consistent level of service that results in increased safety, higher mobility (in general and for emergency services) and fewer "lost" days for the business, education, transportation and manufacturing sectors.

- Managers, supervisors, maintenance workers and the governmental community at large, will all be on the same page in terms of policy, operational procedures and operational issues.

- Exposure to tort liability will be limited if the plan is reasonable, has realistic goals, is resource driven and is followed to the extent possible.

- The public will have a clearer understanding of agency operations. This will generally result in reduced complaints and requests for service.

- The agency will have a forum for continuous improvement and a basis for comprehensive training.

The benefits of governmental agencies, educational facilities and major employers having comprehensive written snow and ice control plans have long been recognized. Al Gesford, a Technology Transfer Specialist with the Institute of State and Regional Affairs at Penn State University, is a long time advocate of carefully crafted written plans and policies. He helped create the "Winter Planning and Organization" section of the Salt Institute/LTAP

Winter Maintenance Training Program and prepared a training document entitled "10 Lessons For Winter Operations Survival." This document focuses primarily on plan and policy issues. He has presented the essence of that document at many training forums throughout the country, and has inspired many agencies to create written policy documents.

I was fortunate to be assigned the task of updating the written snow and ice control plan and policy for the New York State Department of Transportation in 1991. We employed a committee process to blend new technology and ideas with existing policy. The resulting document has stood the test of time and is only now under revision. I have had scores of opportunities to provide expert testimony on that document as it related to particular snow and ice claims against NYSDOT. As long as the guidelines in the policy were followed to the extent possible, there was little successful litigation.

The experience of three agencies that crafted comprehensive snow and ice control plan and policy documents is instructive:

INDIANA DEPARTMENT OF TRANSPORTATION

Tom Konieczny, LaPorte District Highway Management Director for INDOT, offers the following about the creation and implementation of a comprehensive snow and ice control plan and policy:

"In 2000, after seeing many exciting innovations in snow fighting around the country, Indiana DOT made a commitment to modernize its winter maintenance efforts. We created a Winter Operations Team to review and disseminate information which leads to recommendations regarding snow and ice removal materials, equipment, and activities. One objective was to provide

more consistent service on a state-wide basis. As part of this effort, the Team prepared a Total Storm Management Manual as a tool that provides guidelines and options in an effort to keep Indiana Highways open and safe during the winter season. The manual covers a wide range of topics: administrative and management issues, equipment, snow and ice control materials, weather information systems, storm operations, and miscellaneous issues such as training aids and reports. It is a resource that has everything needed in one location. It is both for the novice and the veteran. Although initially there was some reluctance to change, most of our employees have noticed a difference and have embraced our new direction. It has delivered us from a reactionary agency to one that is proactive and innovative and striving to enhance safety, mobility, and economic growth for our customers."

Tom further indicates that most of the benefits listed above have, in fact, benefited INDOT. The INDOT manual is available at: <http://rebar.ecn.purdue.edu/JTRP/> under "Current Issues"

ROCKLAND COUNTY, NY HIGHWAY DEPARTMENT

Charles H. "Skip" Vezzetti is the Superintendent of Highways for Rockland County. Skip's first exposure to the benefits of a written plan and policy was at an APWA Snow Conference about 20 years ago while he was Highway Superintendent for the Town of Orangetown, Rockland County. He remembers the liability-limiting potential as being a good reason to start the process. With broad-based input, he crafted a written policy for Orangetown. The scope of the policy grew and eventually contained a comprehensive materials management plan that allowed the Town to win several "Excellence in Storage" awards from the Salt Institute. During his current tenure

with Rockland County, he created a similar, but more comprehensive, written plan and policy. That policy is on the County web page at: <http://www.co.rockland.ny.us/Highway/hwydocs/Snow%20and%20Ice%20Control%20Policy%202002.pdf>.

Skip feels that the policy is a great internal and external communications tool that helps maintain uniformity of service and keep his customers informed. The county receives very few complaints about its snow and ice control services. The commitment to excellence that drove the creation of plan and policy has had important spin offs in keeping the highway forces up to date in terms of innovative equipment, ground speed controlled materials application and level of service strategies and tactics.

TOWNSHIP OF CRANBERRY, PA HIGHWAY DEPARTMENT

Duane McKee is the Director of Public Works for the Township of Cranberry. In 2004 the Township decided to create a snow and ice control plan and policy that would help them in materials management, public communication/acceptance and provide a tool for modernizing operations and equipment. The Township went about it in a little different manner. It hired a consultant with significant experience in creating snow and ice control plans to assist them through the process.

The Township created a diverse committee including: representatives from several stake holding departments, township managers, highway supervisors and equipment operators to provide input and review material provided by the consultant. As the Township had to provide little staff time, the process only took about 2 months from start to final draft.

A separate, but integral part of Cranberry's snow and ice plan is a materials management plan. The plan uses situational analysis and identifies all of the business practices employed to minimize environmental pollution. These become the basis for its policy.

Since implementation, Cranberry has used the plan and policy as a primary training document. Duane feels there has been significant improvement in providing a uniform level of service and a much better understanding of operational policies. This has resulted in fewer snow and ice service complaints. The plan is available on the Township web page (<http://www.twp.cranberry.pa.us/publicworks/SNOWICECONTROL04.pdf>)

Using the plan as a roadmap for continuous improvement, Cranberry is phasing-in ground speed controllers and truck-mounted pavement temperature sensors through new equipment buys. They installed a "poor man's RWIS" (a \$20 bulb thermometer cemented into an area of the parking lot) that provides

surrogate pavement temperature information to assist in determining ice control treatments on the roads. Chemical application rates are now designed to reflect current pavement temperature, weather conditions and the presence or absence of ice/pavement bond.

CREATING A WRITTEN PLAN AND POLICY

The process for creating a written plan and policy is extremely important to the overall success of the effort. Here, broad-based participation is highly desirable. Representation and input from the following may be helpful in crafting a widely accepted plan:

- Highway agency (probably should lead the process)
- Police agency
- Fire control agency
- EMS and major medical facilities
- School district
- Elected legislative body
- Local transit
- Major local employers
- Road/streetside business owners

- Local automobile clubs
- Local media
- Community groups (churches, PTAs, service groups)
- At large customers (road users and roadside property owners)

Form a smaller working committee. It is not practical to have a large working committee comprised of representatives from all of the above groups. Some may have to provide input by only reviewing and commenting on draft documents or attend a few meetings where they can comment on drafts.

The working committee should have top-to-bottom representation from the highway (lead) agency. Committee members should look for examples of plan and policy documents from neighboring agencies, LTAP Centers, the "Winter Planning and Organization" section of the Salt Institute/LTAP Winter Maintenance Training Program, the agencies cited in this article and internet resources. Much of that will be unnecessary in the future, as most of the topics will be discussed in this series of three articles.

Once an agency has crafted a plan it feels will serve the agency and community at large, that plan must be approved by the municipality's legal staff and ultimately by the governing legislative body.



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QUESTIONS & ANSWERS

Q We're trying to create an effective winter maintenance training program in our small public works department. Can you tell me what resources are available to assist us?

A Many small agencies have found it difficult to organize their own training programs, but one method that can work very well if you have the proper personnel is to choose a "champion" from among your operators and give that person train-the-trainer training. Effective training is like a three-legged stool. One leg is expertise; the trainer needs to know the subject. The second leg is credibility; the trainer needs to command the respect of the trainees. And the third is presentation excellence; the trainer needs to be stimulating and interactive to communicate the training messages. A "champion" has the first two "legs," though sometimes needing instruction on exactly what needs to be communicated. But operators usually need some training in how to interact with a group – it's different than driving a plow or operating a spreader.

Training materials abound. There are relatively comprehensive materials available from the Salt Institute (see <http://www.saltinstitute.org/snowfighting>, http://www.saltinstitute.org/snowfighting/winop-resources/winops_resources.html, <http://www.saltinstitute.org/34.html#wj>, and <http://www.saltinstitute.org/21.html>), AASHTO <http://www.ctre.iastate.edu/pubs/midcon2003/SmithsonTraining.pdf> has a computer-based training program. The Transportation Association of Canada has online materials supporting both an operator/supervisor training course (<http://www.tac-atc.ca/english/pdf/completeguide.pdf>) and a train-the-trainer program (<http://www.tac-atc.ca/english/pdf/ataglance.pdf>).

If you determine that putting on your own training is too much, every U.S. state has a Local Technology Assistance Program (LTAP) Center (<http://www.ltapt2.org/centers/list.htm>) and most of them conduct snowfighter training programs either in a central location or in circuit-riding fashion around the state. In Canada, the Ontario Good Roads Association (<http://www.ogra.org/Winter/winter.asp?itemcode=OGRA-WTMT-SMGT>) has a particularly good program and many APWA chapters sponsor training programs. You can find out their schedule on the Salt Institute calendar (<http://www.saltinstitute.org/23.html>).

Q A couple years ago, Canada started a national program to improve salt management. How's it going?

A Progress has been very encouraging. June 30, 2006 was the deadline for the second annual report from public works agencies. We should have those numbers in several months. Last year, more than two-thirds of the agencies filed the reports. Four in every five reported having approved salt management plans. Eighty-nine percent have roofed storage. Eighty-one percent calibrate their spreaders at least annually. One-third have completed inventories of local salt-vulnerable locations and put in place special environmental practices for those areas. All in all, a very strong start. The Salt Institute had promoted Sensible Salting in Canada for many years, but until Environment Canada created a multi-stakeholder Road Salts Working Group progress was slow and uneven. That now seems to be an historical footnote.

Q I understand that many agencies using highway deicing salt are considering fuel escalation clauses in their salt contracts in recognition of the explosion of motor fuel price increases. What does the Salt Institute advise?

A The Salt Institute takes a strictly "hands-off" approach to salt prices and contract provisions. But, you're right. Fuel prices have skyrocketed and in June, the AASHTO Snow-Ice listserv (snow-ice@list.uiowa.edu) had a timely exchange so we'll summarize for you. OH DOT said they'd seen such a clause in a NY DOT salt contract. PennDOT reported it uses a fuel adjustment clause (<http://www.dgsweb.state.pa.us/comod/Contracts/CN00014936.pdf> see "price change" on pages 1 and 2). Wisconsin DOT said they don't use that provision for data on how much of the transport cost is fuel cost. So, check with these agencies directly.



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