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Foreword

As noted in the 2014-2015 annual report Nunavut Emergency Management (NEM) became a standalone division with its core function being Emergency Management and Search and Rescue. A business case was developed to increase staff and to meet the recommendations for an enhanced Emergency Management Program in Nunavut. This business case was approved and the NEM division will hire four new regional Emergency Measures Officers, a Search and Rescue Training Officer and a Business Continuity Officer. Job descriptions for these positions are being completed and current job descriptions are being updated to bring them into line with the new structure of the division.

Once the new division comes into effect on April 1st 2016 we will hire and train staff for the new roles we have set for emergency management. While some work has been done on development of new policies this is expected to continue into the next few years.

There will also be the development of regulations under the *Emergency Measures Act* that will need to be completed to bring the *Act* fully into force. As regulations are completed the Policies and Operations Manual will be updated.

While the division has achieved many of its goals for the year, staffing and retention remained a major challenge. Staff retirement and difficulty in recruiting qualified staff, again left the division understaffed for most of the year. Some positions are still filled by casuals to take up the work load. The division currently has two permanent employees, a term employee, and two casual staff members. This limits the division's ability to train, attend meetings or respond to requests on program needs. Unfortunately, search and rescue numbers are still very high and are a large part of daily operational response.

The year has seen Emergency Management respond to an increase in declared community emergencies. There were also a number of incidents where action was taken to mitigate the need for communities to declare an emergency. These emergencies have shown us that emergency planning and training, delivered to help local communities respond to emergencies, reduce the impact to local citizens when they do happen.

Nunavut Emergency Management would like to thank Joint Task Force North (Yellowknife and Iqaluit), the Canadian Rangers, and Public Safety Canada for the assistance and guidance we received this year.

Disaster Risk Reduction

The Government of Canada has moved to adopt the United Nations Sendai Accord for disaster risk reduction. Staff attended the first conference on the Accord held in Calgary, Alberta. The conference highlighted the need for Indigenous community resiliency planning. Public Safety Canada and Indigenous and Northern Affairs Canada will be working on an action paper which we hope will include Inuit and northern communities.

Staff participated in the development of a pan-arctic program called ARCTICNet that will bring best practices and lessons learned from across the Arctic together under one organization with the goal to address risks for northern communities. One of the focuses of this group will be climate change and its effect on community emergencies. To this end we will be working closely with our climate change experts in Nunavut and across the Arctic. Discussions have started with counterparts in Alaska, the Yukon and federal government on how to best move this forward. Preliminary discussions are also being held with Nunavik and Greenland to see if there is interest for them to join.

Emergency Management Training

Training in the Incident Command System and the development of the Incident Command Canada program continues to move forward. As part of Incident Command Canada an online course and certificate program has been developed. Students are offered access through the headquarters office and if successful they received their certification for Level 100. There is a plan to develop Level 200 as an online course sometime in 2016-2017. Most staff in Nunavut Emergency Management have completed Incident Command Level 200.

Due to staff shortages we have been unable to do any community training for emergency management. Through the Municipal Training Organization (MTO) divisional staff completed eight basic search and rescue courses and three coordinator courses. For the next fiscal year NEM plans on combining the search and rescue course with the coordinator course.

Red Cross

An agreement was reached with the Canadian Red Cross; instructors from the Red Cross have trained and certified Nunavummiut as first aid instructors. First Aid courses for search and rescue members were completed in Pond Inlet, Resolute Bay and Kugaaruk. A total of 22 members received their Red Cross First Aid certification.

MTO and the Red Cross have now certified a Master Instructor so that recertification and the training of new instructors can continue using an Inuk instructor. As noted last year, the Department of Health has assisted in translating medical terms and the Red Cross has allowed us to translate the Red Cross first aid pocket guide into Inuktitut. The Department of Education offers the Red Cross First Aid program to students in Nunavut.

Community Emergencies

As stated in the Forward, this year has seen Emergency Management respond to both declared local emergencies and incidents where an early response mitigated the incidents before an emergency declaration was required. Each of these emergencies will be discussed in further detail.

Pangnirtung Power Plant Fire

On April 2, 2015, at 02:45h Nunavut Emergency Management (NEM) received a call that the power plant in Pangnirtung had caught fire and that the community was now without power. Team members from NEM were called in and had made contact with the community, Qulliq Energy Corporation (QEC) and senior officials in the GN by 03:30h.

QEC chartered an aircraft and at first light a team from the Corporation was sent in to assess the damage. Emergency generators were located in NT and a charter was arranged to fly them to Pangnirtung.

The Territorial Emergency Response Team (NERT) was called in. Meetings were held between NEM and QEC. All departments were briefed on the response to date, issues from each department were discussed and a plan of action was developed.

Of note, the backup generators at both the Health Centre and the community water treatment facility had failed. A mechanic was flown into Pangnirtung to repair the Health Centre's generator and work on the community water plant's back up unit. NorthwesTel stated that the communication system would last approximately 18 hours before the batteries for these systems would go down. Communication was critical to response so a charter was arranged to bring in a NorthwesTel technician, an electrician and a small backup generator.

Emergency generators from NT arrived in Pangnirtung and by 23:30 h that evening rotating power was restored. Arrangements had been made and additional generators were brought in by NEM to keep heat and other services on in the GN office building. A second generator was brought in, in case power was needed for the airport lighting.

The Canadian Rangers and local health officials identified a number of people at risk and a charter was organized to relocate them to Iqaluit until the situation had stabilized. Hamlet officials moved Hamlet operations into the local school and the Canadian Rangers acted as security and assisted with people requiring shelter and food during this time.

By April 6, 2015 full power was restored to the community but conservation of power was needed as the capacity was very limited. Work continued to acquire replacement equipment and generators that would handle full capacity for an extended time in the community.

Replacement generators and other electrical equipment were located by QEC while NERT handled logistics of shipping them from Edmonton to Ottawa and up to Iqaluit. A plan was implemented to transport the generators from Iqaluit to Pangnirtung.

Due to runway length and the weight of the replacement generators, fixed wing aircraft, such as a Hercules, could not land in Pangnirtung. A Sikorsky S-64 helicopter was located in Seattle, Washington that could lift the units into Pangnirtung, and a large aircraft large (Antoni A-124-100) was chartered to bring the helicopter to Iqaluit.

The helicopter, intended to bring the generators to Pangnirtung, had a very limited flight range and any head winds would have required it to turn back or drop its load. Due to these winds on route, weather-monitoring assistance from a Pilatus PC12 aircraft was

utilized to fly the route prior to the helicopter attempting to transport the generators one at a time.

Pangnirtung had not completed its emergency plan at the time of the power plant fire, however, the Senior Administration Officer had received training from Emergency Management in operating a community response group. This training enabled the community to respond to the emergency at the local level. This allowed Emergency Management to focus on the logistic and response needed from the territorial level. The community response exceeded expectations, which again, showed just how resilient a northern community is, and how citizens come together to assist each other during a community disaster.



Unloading Sikorsky S-64 Helicopter from Antonov A-124-100



First Generator being airlifted into Pangnirtung by Sikorsky S-64



Generator on its way

All replacement generators were on the ground in Pangnirtung by April 23, 2015 and QEC started the process of bringing them online and restoring full stable power generation to the community.

By April 26, 2015 the local state of emergency was terminated and full power was restored for the hamlet.

Note: An after action review was completed to see if there are areas that we need to address for future responses. The review highlighted the need to be able to have emergency power generation for critical infrastructure, and that this be included in new designs or that such equipment be available to move into a community.

Since that time we have worked the airlines and developed a specification for emergency generators that could be easily moved into the smallest communities to ensure that during an emergency these facilities remained functional. NEM tendered the specification for such equipment and have purchased eight 20KVA units that can be flown into any community. These units have the capacity to allow buildings such as Hamlet garages or airport runways to maintain basic operational standards should there ever be the need in the future.

Pond Inlet Sewage Cleanup

In May 2015 NERT assisted in the cleanup of sewage spilled during the local emergency in Pond Inlet in February 2015. This response was mostly logistical and technical advice.

Igloolik Water Shortage

In June 2015 Hamlet of Igloolik requested assistance to replenish its water supply reservoir. Levels in the reservoir had reached the point where there was an immediate concern in the community that they would not have enough water to last until summer fill up, and that it may compromise the capability of the fire department should a major fire occur. The local water lake was frozen to almost the bottom and could not be used for resupply of the water reservoir.

A plan to pump water from a lake seven miles away was developed, and NERT was brought in to assist with transporting eight miles of 4-inch fire hose, and three large capacity emergency pumps that NEM retains in inventory, into the community.

Fire hose was flown in from Montreal and the pumps and hose were chartered into Igloolik. Staff from Emergency Management traveled to Igloolik and distributed hose across the ice and set up pumps at the identified water lake.

After receiving permission from the Nunavut Water Board, water was used from the lake as an emergency supply to refill Igloolik's water reservoir.

By June 20, 2015 the ice across from the main land where the lake was located had started to melt and enough water had been pumped to supply the Hamlet until summer. Equipment was demobilized and readied to ship back to Iqaluit by sealift later in the summer.

Hall Beach Water Pump

The Hamlet of Hall Beach requested assistance in September of 2015 when the Hamlet's water pump failed during the refill of their water reservoir and parts could not be found to repair it.

NERT was brought in to assist. The pumps that had been in Igloolik for the emergency earlier had already been loaded on sealift and shipped back to Iqaluit. The water pump from the Hamlet of Igloolik was borrowed. Due to the size of the pump it was disassembled and a helicopter was chartered from the North Warning Site in Hall Beach to sling it into Hall Beach. The water reservoir was refilled thereby preventing a water shortage later in the year.

Responses over the year

Nunavut Emergency Management over the course of the year was heavily involved in search and rescue activities and to responding to emergency situations throughout the territory. Involvement in other areas also needed to be noted.

The Director of Emergency Management along with his counterpart from Nunavik spoke of the challenges of marine search and rescue in the Eastern Arctic at a conference held during SARScene, the National Search and Rescue meeting in August. This presentation and subsequent discussions with the Canadian Coast Guard has resulted in a program to expand Coast Guard Auxiliary units throughout the Eastern Arctic. As this program develops further information will become available.

Both the fire at the new air terminal in Iqaluit and the later fire and loss of the school in Cape Dorset were issues that we needed to closely examine to see if future plans should be developed to address such events. As we move to looking at critical infrastructure in communities and how to better protect and mitigate the loss of such structures these incidents will be taken into account.

In November and December of 2015 we became involved in the Operation Syrian Refugee program with the federal government. All jurisdictions in Canada at the beginning of the planning stages were brought in to advise on what each jurisdiction could provide for assistance. With the challenges Nunavut faced with housing its own citizens it soon became obvious that we would not be taking any refugees, but we remained on the working group so that we had situational awareness.

Over the course of the year the value of the NERT team has shown itself over and over. NERT's role and effectiveness would be greatly enhanced by having a dedicated Emergency Operation Centre (EOC). During emergencies over the year we have had to take over operational space in hall ways and office areas that are neither secure nor conducive to an organized response. Briefings have to be held in other locations, and depending on the situation, there are clear issues with security.

Despite plans for additional training in Incident Command and in Emergency Operations the government's ability to respond effectively and within national standards is reduced without a dedicated facility. As we move to implement the changes, having the resources to respond to emergencies and the staff available to offer the training and response will become critical.

While some GN departments are working on completing a basic emergency plan, the Territorial Emergency Plan has yet to be adopted. It was decided that the *Emergency Measures Act* not be fully brought into force as this would place most, if not all departments in violation of the *Act*. Regulations still need to be developed for certain areas of the *Act* and that work has not started.

The creation of an Emergency Measures standalone division was forward looking, however, the work to bring the division up to a national standard still needs to be done.

Table 1.0 Municipal Emergency Response Plan Status (as of March 31,2016)

Community	Training Completed	Participants	Emergency Plan / By-Law Status
Iqaluit	Dec. 2008	16	Completed/updated
Rankin Inlet	March 2009	11	Completed
Cambridge Bay	May 2009	19	Completed
Taloyoak	Oct. 2009	14	Completed
Kugluktuk	Oct. 2009	14	Completed
Whale Cove	Nov. 2009	13	Completed
Baker Lake	Nov. 2009	12	Completed
Kugaaruk	Jan. 2010	9	Pending
Gjoa Haven	Jan. 2010	15	Completed
Repulse Bay	Mar. 2010	11	Completed
Arviat	Mar. 2010	10	Completed
Kimmirut	Apr. 2010	12	Completed
Cape Dorset	May 2010	14	Completed
Pond Inlet	May 2010	14	Outdated/Requested updating
Igloolik	May 2010	14	Completed
Hall Beach	Sept. 2010	12	Completed
Clyde River	Sept. 2010	9	Completed
Coral Harbour	Oct. 2010	15	Completed
Chesterfield Inlet	Oct. 2010	9	Completed
Sanikiluaq	Dec. 2010	12	Completed/Requested updating
Arctic Bay	Jan. 2011	14	Completed
Grise Fiord	Jan. 2011	15	Completed
Resolute Bay	Jan. 2011	14	Completed
Pangnirtung	Feb. 2011	17	Pending
Qikiqtarjuaq	Feb. 2011	12	Completed

Staffing issues and the number of incident and program needs has limited the division's ability to move forward on getting the remaining community emergency plans completed. A plan of action has been agreed on by the Deputy Minister for the coming year to complete the three remaining communities.

Search and Rescue

Search and rescue efforts continue to be a core function of Nunavut Emergency Management staff. We operate a 24/7 duty officer system to be able to respond to search and rescue calls. While we had seen a slight decrease in the number of taskings in 2014-15 the numbers increased in 2015-16.

It is clear that the increase in the numbers is the result of lack of preparedness. Few calls are for lost persons; most calls are the result of persons who have broken down or have run out of fuel. Many calls received involved travelers who had broken down and needed parts or supplies to be able to return home. As the number of responses rises in a community, the numbers of local volunteers are diminishing due to burn out.

While recovering an individual who is stranded on the land is the priority, bringing equipment that has broken down back to a community is not a priority.

NEM has started a program to replace some of the older model SPOT units as they fail and are looking at and testing other communication equipment to see if some of the new technology can be utilized to assist citizens when in need.

The training criteria for search and rescue certification that will enable NEM to train volunteers to meet a national certification standard are now near completion. A final meeting and vote on the criteria is expected within the next few months. NEM has given the training standard to search and rescue instructors who deliver the training through the Municipal Training Organization so that they can modify the courses to meet the standard in the coming year.

Again this year, NEM committed \$250,000 to the Municipal Training Organization (MTO) for basic, advanced and coordinator search and rescue training. The communities and numbers of participants that were trained are detailed in the MTO annual report.

A number of difficulties with tracking statistics for the year have been encountered. It has been difficult for the division to break out annual costs using a calendar year rather than fiscal year. The functionality of the national database has also presented issues. The division is actively looking at replacing this database, while being cognizant of costs, since the current system is lacking the ability to track training and volunteer time for individuals. Furthermore, NEM does not have the ability to track the time of staff in Emergency Management as they deal with search and rescue calls. This has resulted in issues with volunteers not being able to take advantage of the federal tax credits for search and rescue, and not having the staff levels to prevent burn out of duty officers.

Furthermore, the national database has undergone additional changes this year so that it can be used across the various platforms within the Knowledge Management System (KMS) currently being employed by the federal government. This has removed some of the ability to track activities that NEM had historically tracked. The changes allowed for information from the Joint Search and Rescue Centres to be included within the KMS to give a much boarder picture nationally. There is concern that the Ground and Inland Water Search and Rescue Database will not be supported in the future. We are lacking many needed functions, and after discussion with the federal government there are no funds to upgrade this database as most jurisdictions are going over to one of the two off-the-shelf search and rescue programs. This further justifies our move to a database that is stable and is in use by other jurisdictions.

The total number of incidents and details of the incidents for the calendar year ending December 31, 2015 are noted below. *Statistics collected using the national database for the calendar year January 1 to December 31.

Table 2.0 Search and Rescues Statistics

Type of Tasking	Number of Taskings
Marine	29
Ground	128
Air SAR	3
Medivac	7
SPOT	82
Assist RCMP	1
General Assistance	1
Total Taskings	251

Searches were conducted for over 400 individuals; 80% of the searches were the result of either running out of fuel, mechanical breakdown or being stuck.

SPOT devices or Personal Location Beacons (PLB) supplied by the GN were used in 82 of the incidents (approximately 33% of all total taskings).

Table 3.0 Incidents by Month

Month	Number of incidents	Month	Number of incidents
January	18	July	27
February	15	August	27
March	19	September	29
April	19	October	13
May	31	November	18
June	22	December	13
Total			251

Table 4.0 Search and Rescue by Community

Arctic Bay	11	Pangnirtung	17
Qikiqtarjuaq	3	Pond Inlet	17
Cape Dorset	9	Resolute Bay	5
Clyde River	4	Sanikiluaq	7
Hall Beach	24	Arviat	11
Igloolik	16	Baker Lake	12
Iqaluit	14	Chesterfield Inlet	5
Kimmirut	1	Outside Nunavut	1
Coral Harbour	6	Rankin Inlet	21
Repulse Bay	9	Whale Cove	9
Cambridge Bay	4	Gjoa Haven	22
Kugluktuk	2	Kugaaruk	4
Taloyoak	17		
Total			251

Table 5.0 Search and Rescue expenditures for fiscal 2015/16

Budget	\$300,000.00
Air Charter for search and rescue	197,523.07
Community Contributions include cost by communities for searches and equipment such as radio, spot and GPS replacement	\$157,436.31
Total	\$354,959.38

Table 6.0 Search and Rescue Grants and Contribution expenditures for fiscal 2015/16

Grants and contributions Budget	\$500,000.00
Municipal Training Organization	\$250,000.00
Annual Spot activation fees	\$75,000.00
Community Satellite Phone fees	\$75,937.82
Red Cross First Aid	73,000.00
Total	\$473,937.82