Technical Circular T-07/06
Date: May 1, 2006

TO: All HQ Directors: Operations, Planning & Major Projects
All Regional Directors
All District Managers, Transportation

Subject: Uninterruptible Power Supplies (UPS) at Signalized Intersections and at Traffic Control or Warning Devices Interconnected with Railways

Background:

Traffic Signals will become inoperative when power is lost due to storms, collisions with vehicles and other incidents affecting the supply of power from the power utility. This may result in substantial delay to travelers and an increased risk of a collision. Prior to the full implementation of LED signal heads at Ministry traffic signals, it wasn't economically feasible to install Uninterruptible Power Supplies (UPS) throughout the province.

Traffic control and warning devices interconnected with railways also become inoperative when power is lost, negating the value of active turn control signs and warning signs. Again, with the implementation of LED devices, it is economically feasible to install Uninterruptible Power Supplies (UPS) at these railway interconnect locations.

Policy:

Effective immediately;

1.) Existing traffic signals will be prioritized by Regional Traffic Engineers and traffic signal UPS installed on a Provincial priority basis subject to the availability of funding. (See attached priority listing for criteria and format)

2.) UPS shall be added to all new traffic signal and railway interconnected traffic control and warning device specifications.

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Ministry of Transportation Traffic Signal UPS Prioritization

Dwg #	Location Description	Municipality	Geometry	Rail Pre-empt	Emergency Services	Advance Warning Flashers	System	Crash Prone Sites	Power Problems	Disaster or Truck Rte	High Volumes	Proximity to other UPS	Total Score	Type	Note
												0	**0**		
	Rte 1 @ A St	Anywhere										0	**0**		
												0	**0**		
	Smith Rd @ 99th St	Supercity										0	**0**		
												0	**0**		
	Rte 55 NB offramp @ Centre Rd	Metropolis										0	**0**		
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15	Route 16 1st and Quebec Street PG														
38	Route 16 Manitoba Street Smithers														

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PRIORITIZATION FACTORS for Traffic Signals at intersections including interchange ramps and pedestrian signals.

Geometry: - Locations where right of way assignment for a 4 way stop operations is difficult,
Single Point Interchanges, Permanent One-way Bridge Signals, Conflicting Left Turns using Lead/Lag - (20) ,
Protected Only Left Turn intersections including intersections with Split Phasing (15)
Otherwise (0)

Rail Pre-empt: - Intersections with Rail pre-emption (20), Otherwise 0.

Power Problems: - History of signal malfunction due to chronic power quality or reliability problems (20), otherwise (0)

Crash Prone Sites: - Locations on the Ministry Crash Prone Location List or the ICBC Crash Prone Location List (10), otherwise (0)

Advance Warning Flashers Installed: - Presence of AWF (5 per AWF sign)

High Volume intersections: - intersection with volumes entering the intersection of >15,000 AADT (10), otherwise (0)

Emergency Services: - Intersection is within 400m of a fire hall, ambulance station or Hospital or with Emergency Pre-empt (5), otherwise (0)

Disaster/Truck Routes:- Disaster or Truck Routes(5), otherwise (0)

System: - The signal is part of a co-ordinated system or are part of a corridor (conventional highway or non-freeway) that function as a major arterial in urbanized areas including interchange off ramps (5), otherwise (0)

Proximity to other UPS signal: - Intersection is within 200 meters of a municipal intersection with UPS (5), otherwise (0)

Type: - 1) Single Point Interchange (SPI), 2) Diamond Interchage, 3) Tunnel, 4) One-Way Bridge, 5) Ped Signal, 6) Lead/Lag Turns, 7) Protected-Only Turns, 8) Split Phase Signal
9) Fire Signal, 10) Ramp Metering, 11) Ferry/Weigh scale signals, 12) Rail-way Advance Warning Signal

Note: Fire Hall Driveway Special Ped Xings and non Ministry signals are not evaluated,. Rail crossings are operated by Rail and all have existing backup power.