

1 multi-year program to install smart meters. Incorporating the information from these
2 smart meters into the ORMS system will improve the efficiency and performance of
3 outage management and communication with customers. In addition, the smart meter
4 initiative provides a communication network which enables remote control of new
5 distribution equipment via the Network Management System.

6
7 The proposed spending for 2008 along with the spending levels for the bridge and
8 historic years are provided in Table 1 below.

9
10 **Table 1**
11 **Operations Capital**
12

Description	Historic			Bridge	Test
	2004	2005	2006	2007	2008
Operations Capital	6.3	4.7	2.1	2.0	3.6

13
14 The increase in 2008 over the bridge and historic years is required to continue with the
15 proposed investments to improve Operating efficiencies as noted above.

16
17 **3.0 SYSTEM ENHANCEMENT PROJECTS**
18

19 Specific projects planned for 2008 are described below. Investment Justification
20 Documents (IJDs) for projects with net capital requirements over \$1 million can be found
21 in Exhibit D2, Tab 2, Schedule 3.

1 **3.1 Distribution Operating Facilities Sustainment and Enhancement**

2
3 Although the Operating amalgamation was completed in 2004, some Distribution
4 Operating Facilities commissioned in 2001 and 2002, which were moved to the OGCC,
5 will be requiring refurbishment and capacity expansion in 2008. This project work
6 includes ORMS and a portion of the IVR system.

7
8 The enhancement based project work provides for real time feeder analysis in NMS to
9 improve the management of the sub-transmission feeders, enabling the ability to deploy
10 alternate feeder configurations quickly and expedite restoration of some or all of the
11 affected customers.

12
13 The combined cost of these projects is \$0.8M in 2008.

14
15 **3.2 Outage Response Management for Smart Meters**

16
17 ORMS currently gets all of its information on prevailing outages from customer phone
18 calls. This is achieved through interfaces to the software used by the Call Centre agents
19 and to the Call Centre IVR system. The installation of smart meters and the
20 telecommunications to retrieve data from them creates the opportunity to improve the
21 efficiency and accuracy of ORMS with respect to the prompt identification of the
22 existence, location and extent of outages and the monitoring of momentary outages.

23
24 The cumulative benefits to ORMS will be improved reliability performance through
25 better and more complete monitoring and reporting, enabling quicker response times and
26 timely correction of emerging issues.

27

1 This investment will require new hardware and software features in the central smart
2 meter data collection facilities and in ORMS to allow this information exchange to take
3 place in near real time. It is expected that it will take one to two years for Hydro One's
4 suppliers of these systems to deliver these features. Funding of \$0.5 million is required
5 in 2008 for the first phase of this project to complete detailed requirements and pilot
6 testing.

7
8 **3.3 System-Data Archiving and Historical Data Management for Distribution**
9 **Operations**

10
11 NMS and ORMS contain a large quantity of data on the historical performance of the
12 Distribution System assets, response times to outages, customer supply performance,
13 outage causes, etc. Extracting the data from the existing databases involves a large
14 amount of manual effort and time delays. This is costly and severely curtails the
15 discovery process needed to identify all the asset and performance issues. This
16 investment will provide long term archiving of distribution operations data as well as data
17 mining and analysis facilities that will allow distribution system planning staff the ability,
18 on a self-serve basis, to retrieve and analyse information to improve system planning and
19 asset investment decisions. The benefits will be better decision-making on distribution
20 system investments, as well as saving labour costs in the data extraction, reporting and
21 analysis processes. Hydro One originally planned to complete this work earlier, but
22 adjusted the schedule to allow integration with the Cornerstone architecture. This
23 integration should reduce implementation cost and allow improved correlation between
24 this historical information and such data as work program accomplishments contained in
25 the new work management system. The 2008 cost for this project is \$1.3 million. For
26 additional details, refer to the IJD in Exhibit D2, Tab2, Schedule 3.

1 **3.4 NMS Enhancements for Distribution Monitoring and Control**

2

3 Hydro One has a program to install sectionalizers on feeders and monitoring and control
4 facilities in Distribution Stations. The program targets the worst performing feeders and
5 most heavily loaded Distribution Stations and is an element of Hydro One's strategy to
6 improve Distribution System reliability performance. While sectionalizers and
7 Distribution Station monitoring facilities deliver benefits while operating on a stand-
8 alone basis in automatic configuration, greater benefits are achieved when they can be
9 remotely monitored and operated from the control centre. This investment provides the
10 system enhancements required at the OGCC to deliver those benefits. The 2008 cost for
11 this project is \$1 million. For additional details, refer to the IJD in Exhibit D2, Tab2,
12 Schedule 3.

13