Recommissioning Basics (RCx)

Module 22 of 30

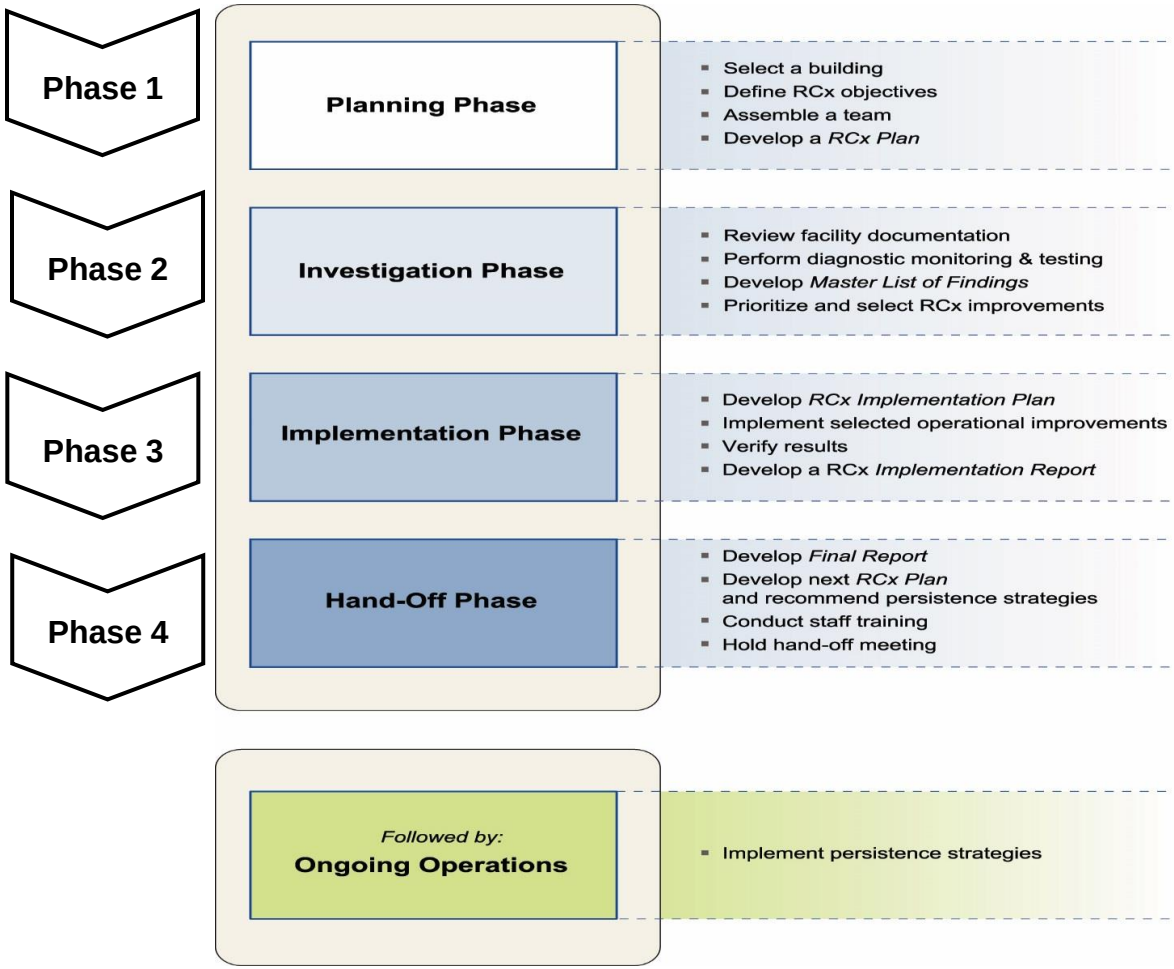
LEARNING OBJECTIVES

- Describe the RCx process
- Apply a criteria for selecting suitable buildings
- Describe how to initiate and manage an effective RCx project
- Describe the key activities required for persistence of savings

AGENDA

- Planning for RCx
  - Including Developing the Business Case
- The RCx Investigation
- Implementation of RCx Findings
- Hand-off and Persistence of Savings

RCX PROCESS: PHASE 1



www.nrcan.gc.ca/energy/efficiency/buildings/research/optimization/recommissioning/3795

Refer to the *Recommissioning Guide*, page 26

Activity 1

Phase 1

Use Recommissioning Project Pre-Screening Tool To Evaluate Your Building for RCx

nrcan.gc.ca/sites/www.nrcan.gc.ca/files/canmetenergy/files/2009-098_en.pdf

Refer to the Pre-Screening Tool

SAMPLE RCx FINDINGS

Phase 2

#	Finding	Measure	Estimated Annual Electric Use Savings (kWh)	Estimated Annual Electric Use Savings ($)	Estimated Annual Electric Demand Savings ($)	Estimated Annual Gas Savngs (GJ)	Estimated Annual Gas Savings ($)	Total Annual Savings ($)	Estimated Impl Cost	Simple Payback	Benefits	My Ranking 1-10
1	Chilled supply water temperature setpoint is reset by outdoor air temperature	Reset the chilled water supply temperature setpoint based on air handling unit cooling valve positions.	9,260	$425	$680	0	$0	$1,105	$1,800	1.6	Reduced chiller load and operating hours. Longer life.	
2	Chilled supply water temperature lower reset range is below the required.	Increase the lower range of the chiller reset setpoint from 5 Deg C to 6.7 Deg C.	2,700	$125	$0	0	$0	$125	$175	1.4	Reduced chiller load and operating hours. Longer life.	
3	Cooling Tower VSD speed is controlled by the leaving condenser water temperature from the chiller.	Change the DDC program code to control the condenser water supply temperature instead of return water temperature.	26,000	$1,190	$1,030	0	$0	$2,220	$2,100	0.9	Reduced energy use for the condenser fan. Longer life.	
4	Make-up air unit is starting before building occupancy	Start the make-up air unit accordingly with floor occupancy.	56,000	$2,590	$0	55	$675	$3,265	$175	0.1	Faster recovery from NSB.	
5	Exhaust fan is constant volume and MUA unit is VAV	Add VFD to exhaust fan and interlock with MUA unit	44,800	$2,070	$0	83	$1,015	$3,085	$9,500	3.1	Better pressurization, improved comfort.	
6	Floor air handling units are starting and running during unoccupied period	Interlock the booster fan with the make-up air unit.	14,400	$660	$0	0	$0	$660	$5,000	7.6	Reduced operating hours. Longer life.	
7	Condenser Water Pumps are throttled down	Install a Variable Speed Drive to control both condensing water pumps	24,400	$1,120	$0	0	$0	$1,120	$12,100	10.8	Reduced load on pump. Longer life.	
8	Lighting control system turns on lights in the morning according to a fixed schedule	Automatic lighting control not optimized; modify to incorporate mandatory manual turn-on by occupants as they arrive to work	17,200	$790	$0	0	$0	$790	$700	0.9	Visible energy management for occupants. Longer lamp life.	
9	Parking lighting operates continuously	Install motion sensors for parking stalls to restrict parking lighting when unoccupied	25,800	$1,185	$0	0	$0	$1,185	$8,600	7.3	Visible energy management for occupants. Longer lamp life	
10	Washroom and General Exhaust Fans are on hand and running continuously	Reset to automatic control and optimize schedule	24,000	$1,100	$0	580	$9,300	$10,400	$350	0.0	Reduced operating hours. Longer life.	
			244,560	**11,255**	**1,710**	**718**	**10,990**	**23,955**	**40,500**	**1.7**	**0.0**	**0.0**