REPLACEMENT IN KIND

INTRODUCTION

PRC.1.0.2, which covers Management of Change (MOC), states that one of the more basic problems associated with managing change is that of recognizing when a change has, or has not, taken place. Given the amount of maintenance and other activities that go on in any large facility, an MOC system would be overtaxed and soon break down completely if some way were not found to screen out those actions which were not true changes. One of those methods is to not require MOC review of those activities which are identified as "replacement in kind" (RIK). An RIK is a replacement of equipment, processes, procedures, personnel, etc. which meets the original design specifications and so does not change the hazards in kind or degree. Determination of RIK requires knowledge not only of the design specification, but also of unstated but related factors. It requires the judgment of the "Change Authorizer" or the "Initial Reviewer" as described in PRC.1.0.2.2.

POSITION

Establish a process, as part of the MOC system, to identify and screen from the MOC system those activities which are RIK.

Create a list of the most commonly encountered RIK actions at the facility, and sort them. Add to the list as necessary. Make the list available to those who need it to decide when to initiate a request for change.

DISCUSSION

There is a paradox in the concept of RIK because the purpose of the RIK designation is to permit an activity without review but the activity must be reviewed to be sure it is truly an RIK. This paradox is resolved by recording examples of those activities which have been identified through review as RIKs. New proposed actions can then be compared to those examples and if identical classed as RIK without further work. There are however qualifying circumstances:

- The process may have been adjusted or reworked due to wear in the part being replaced.
- The replacement part may not be identical in all respects to the part it is replacing. Manufacturers of parts frequently change manufacturing methods, gasket materials or other characteristics of parts. They also change a part's pressure rating or their specifications for how a part should be installed or calibrated.
- The people installing the part may not have been present at the initial process setup. Their review of a new process hazards evaluation will familiarize them with loss scenarios involving that part as well as the rest of the process.

- A better part may have been developed and may have become available since the process was first set up. This option should always be checked before automatically assuming a straight replacement should be done.
- Complying with outstanding recommendations, such as those made by AXA XL Risk Consulting, may require a different approach than simply replacing a part. The need to replace a part should be an opportunity for completing such recommendations.

The examples that follow contrast between RIKs and similar ones which are true changes requiring use of the MOC system.

EXAMPLES

Replacement In Kind	Change
Sampling a process on Mondays and Thursdays instead of on Tuesdays and Fridays (assuming other related activities, environmental conditions, and resources are constant throughout the week)	Sampling a process once weekly instead of twice weekly
Relocating hot work to another area within a nonrestricted hot work site	Relocating hot work from an area that does not require a permit for performing hot work to an area that does
Delegating work order approval to a properly qualified substitute	Changing purchase order approval practice
Reducing inspection frequency based on accepted engineering methods (e.g., remaining life calculations)	Changing inspection method for metal thickness from ultrasonic to x-ray
Raising process temperature within specified limits	Reducing process cooling time below specified limits
Using identical process control format on different (but equivalent) computer hardware	Activating or deactivating advanced process control strategies
Changing material concentration within operating limits	Changing material type or concentration outside operating limits
Changing product purity within operating limits	Increasing or decreasing product purity outside operating limits
Promoting a properly qualified operator to chief operator	Changing chief operator qualification requirements
Replacing equipment with the same size, metallurgy, wall thickness, pressure rating, design temperature, etc.	Changing from carbon steel to stainless steel Changing from schedule 40 to schedule 80 piping Changing pipe diameter or vessel nozzle size Changing from ANSI 150-lb flanges to ANSI 300-lb flanges

Replacement In Kind	Change
Replacing a valve with one that is in all respects identical	Replacing a rising-stem valve with one that is not, when the procedure calls for the operator to open it "X" number of turns
Replacing rotating equipment with new equipment of the same material, capacity, flange rating, seal design, driver type, etc.	Changing material of construction Changing impeller sizes Changing seal design Changing driver type, motor electrical requirements, coupling, etc.
Changing from a spring turnaround to a fall turnaround within the run time limit for the unit	Postponing a unit turnaround beyond the design run time limit
Placing equipment back into the same service after a relatively short period of time out of service (assuming the equipment was properly decommissioned, normal periodic maintenance was performed, and personnel training was not out of date)	Placing equipment back into service after an extended out-of-service period in which the equipment was not maintained or during which other changes in the unit occurred, thereby altering the operating conditions for the equipment
Recharging a carbon dioxide extinguishing system	Replacing a building sprinkler system with a carbon dioxide extinguishing system
Replacing industrial trucks with identical units	Changing truck routing through a plant
Replacing filters with identical spares	Changing building ventilation air intake location
Painting a wall with the same paint previously used	Erecting scaffolding in an area where it alters access to other equipment or restricts egress from the working area
Replacing the current maintenance contractor with another qualified contractor	Replacing a maintenance contractor with another based solely on reduced cost
NA	Increase or reduction in the number of operators on a shift
NA	Changing from a decentralized control room to a central control room
NA	Changing from centralized maintenance to decentralized maintenance
Conducting weekly shutdown on Friday instead of Saturday	Changing from 5-day operation to 7-day operation
Operating a process with an interlock out for maintenance, as allowed by the written operating procedures	Continued operation with an essential safety system out of service (e.g., a relief valve)