



WTP/WWTP Maintenance Planning Task Force Update – November 2011

Practices for maintaining water or wastewater treatment plant's equipment and infrastructure are well defined by manufacturers operating manuals and there are a host of publications from WEF, AWWA and similar organization that can assist in implementing accepted practices in maintenance management. However, the practice of advancing a culture of proactive maintenance for complex facilities like water or wastewater treatment plants is not simply a technical challenge but also a major organizational change and communication challenge.

This Task Force is aimed at uncovering the issues at the heart of advancing better maintenance planning, and to identify metrics and reports that will be useful for managers to better direct their maintenance efforts. This Task Force began in Sept, 2007 and the participants have since agreed upon an Action Plan and an agenda for the 2011-12 iteration of NWWBI Benchmarking.



WEFTEC recently recognized the accomplishments of this Task Force in 2011, whereby the results and progress were presented as a podium presentation at WEFTEC 2011 in Los Angeles. The resulting technical paper can be downloaded from the NWWBI project website. This interesting paper documents this Task Force's progress to 2011.

While excellent progress has been made in establishing a definitive Best Practice for advancing to a culture of proactive and optimized plant asset management, Task Force members agree that continued collaboration is benefiting all of the participating utilities. To this end, the WTP/WWTP Maintenance Planning Task Force met at the Region of Peels' Lakeview Water Treatment Plant in Mississauga for a two day workshop in October 2011. 19 participants from Epcor, Vernon, Calgary, Red Deer, Winnipeg, Hamilton, Alberta Capital Regional Wastewater Commission, Thunder Bay, Windsor Utilities Commission, Collingwood Public Utilities, and the Region of Peel met to discuss a number of topics:





- Explore the process of implementing Reliability Centered Maintenance (RCM) within water and wastewater plants. This was conducted through the review of a recent case study at the Region of Peel.
- RCM is defined by the technical standard SAE JA1011. This standard sets out the minimum criteria that any process should meet before it can be called RCM. This starts with the 7 questions below, worked through in the order that they are listed:
 1. What is the item supposed to do and its associated performance standards?
 2. In what ways can it fail to provide the required functions?
 3. What are the events that cause each failure?
 4. What happens when each failure occurs?
 5. In what way does each failure matter?
 6. What systematic task can be performed proactively to prevent, or to diminish to a satisfactory degree, the consequences of the failure?
 7. What must be done if a suitable preventive task cannot be found?
- Review the relationship between Failure Modes and Effects Analysis (FMEA) has with RCM
- City of Hamilton's progress in its implementation of Enterprise Asset Management within its water and wastewater treatment plants, and how the City is dealing with the important changes to the culture within the organization that will be required in order that the EAM system will be successful.
- The need to define a "Vision" for maintenance within an organization that is moving from reactive to proactive modes of work
- Skills that are required to succeed within RCM and a proactive culture are different than skills that are highly valued within the reactive organization. Many of the participants believe that this has not been adequately addressed within their organization yet.
- There could be tremendous value in setting up a clearing house of a range of plant maintenance standards within the NWWBI. Sharing important reference documentation like Standard Operating Procedures (SOPs), etc could be of benefit to all. This will be an Action Item going forward
- Setting task force goals for 2012.

Communication amongst members will occur through e-mail discussion, conference calls and the workshop in Quebec City in April 2012. AECOM will provide logistical and technical support (and is included as part of the Benchmarking fees).

This Task Force is open to any utility that is participating in the NWWBI. For current information on this Task Force or Task Force Deliverables, please contact: David Main (AECOM): 604-444-6491 or david.main@aecom.com