

Part II: Are You Best-Of-Class? Consider Specific Auditing Steps

Written by Heinz P. Bloch, P.E., Process Machinery Consulting
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Moving toward improved maintenance effectiveness and equipment reliability is what benchmarking is all about.

Part I of this two-part series presented an overview of benchmarking and auditing, and how consistently high-performing operations base their management decisions on real data. They always focus on economics, optimize revenue and expense, and take responsible risks. This concluding installment discusses just how to go about obtaining your benchmarking data.

Plant reliability assessments and comparisons are periodically conducted by a team of competent reliability professionals. In general, they would be individuals that have been groomed and nurtured over a period of 10 or more years. They have read widely, actively participated in national and international conferences and honed their skills through ample access to different industries. They would be familiar with best practices and appreciate the fact that the continual acquisition of marketable analytical and practical skills is necessary for professional growth. As of 2008, there is no longer a surplus of these types of individuals in the marketplace—and smart employers clearly understand their value.

These knowledgeable professionals then carry out an audit by teaming up with others and conducting interviews with managers, supervisors, operators, shop technicians, purchasing personnel, engineers and other job functions. An audit team might be made up of two to six specialists. Any two of these join up to conduct short interviews (they typically take 30 minutes) with an operator, a mechanic, a process supervisor, an electrician, a process engineer, a reliability manager and several other job functions represented in the plant. The audit team uncovers the depth of knowledge that exists at location "A" and compares it to a standing achieved at "B." The team uncovers strengths and vulnerabilities, achievements and weaknesses.

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Before a report is issued, the team's findings are discussed with the management staff and, sometimes, the employees at the audited facility. The findings of an audit team are listed in a matrix similar to that presented on the following pages. (Note: the matrix in this article represents an incomplete listing of factors to be weighed in ranking a reliability organization. Outlining a skeleton of issues to be addressed, it is meant to serve as guidance for your reliability professionals. Many additional questions are possible and the answers will reveal the extent to which a plant approaches Best-of-Class status from a reliability professional's perspective.)

While it may be claimed that the ultimate findings and rankings are unscientific or subjective, we would do well to accept the findings if they are influenced by the decade-long experience of practicing professionals. The access these professionals have had to plants both worldwide and at many different industries can be of immense value to you. Our advice is to learn from this access and to closely examine some of the items an experienced professional will look for. Here is a sampling of 27 points—your organization can add to them as it sees fit.

Rankings are either numerical (10 = Organization applying best available practices, 1 = Org. applying least desirable/unacceptable practices) or letter-based (A = excellent, F = failing)

- 01 Reliability group acts as a SERVICE (on-demand) organization rather than a fully reliable SUPPORT organization
- 02 Recognition and implementation of component management SUAVE (SCHEDULED VISUAL ANALYSIS) and SLP (SCHEDULED LUBRICATION) as a standard practice
- 03 Assignment of operators to surveillance tasks, i.e. optimization of reliability group personnel for analysis of deviation from normal vibrations analysis procedure rather than data collection tasks you are not optimizing a valuable resource.
- 04 Input in project development During the audit process, get a display and justify consistency and auditability of related documents
- 05 Definition and compilation of consistency and auditability of related documents Root cause failure analysis is not possible from a basis of ignorance.
- 06 Consistency and continuity of optimized plant uptime depend on following w

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Root cause failure analysis is not possible from a basis of ignorance.

07	Performing true and effective root cause failure analysis	08	Resourcefulness in capturing data and dispensing it to the right people	09	Utilization of appropriately detailed, rapidly processed data	10	Networking, access to mentors, peers and courage	11	Understanding of reliability approach	12	Taking lead role in identification and verification of critical spare parts, including decision-making process	13	Development and utilization of spare parts catalog	14	Utilization of cost-effective conditioning	15	Optimization of synthetic lubrication	16	Grease lubrications methods	17	Recognition of sound foundation	18	Applying two-hand rule to piping
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Finally, after auditing a plant and during the subsequent group meeting with the interviewees, consider assigning a "weight scale" to each item. The weight might range from 5 (very important) and 4 (important) to 3 (moderately important) and 2 (somewhat of interest) to 1 (nice, but unimportant). For each of the 27 or more items, the ranking number should then be multiplied times the weight number. High-priority issues will become more visible and comparisons among different plants are made in this manner. The facility is now able to take concrete steps to move toward greater maintenance effectiveness and higher equipment reliability. That, of course, is the ultimate goal of benchmarking. **LMT**

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