

TABLE 1.5. Examples of COO System Characteristics

Topic	Indicators of Weakness	Indicators of Strength
Management Systems	<p><input type="checkbox"/> Management reviews of operations are not conducted or are conducted in an informal manner.</p>	<p><input type="checkbox"/> Managers have a structured management review process for process safety elements and key operation/maintenance activities and generate actions to address the issues that are identified.</p>
COO Foundations	<p><input type="checkbox"/> A new policy or procedure is issued and the first question asked about it is: "OK, I understand what the paper says, but what do you really want us to do?"</p> <p><input type="checkbox"/> Horseplay⁴ is tolerated.</p> <p><input type="checkbox"/> The schedule of maintenance tasks was known to be unrealistic due to the reduced size of the maintenance staff. However, no risk prioritization was performed to identify the most critical tasks. As a result, technicians were told to "do what they could."</p>	<p><input type="checkbox"/> Policies describe the behaviors that are expected of personnel.</p> <p><input type="checkbox"/> The consequences of horseplay and other willful or egregious acts are documented.</p> <p><input type="checkbox"/> Required resources are provided to complete the scheduled work or the scheduled work is prioritized to be consistent with the available resources.</p>

⁴ Rowdy or boisterous play; gay or light-hearted recreational activity for diversion or amusement. Also known as skylarking.

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People	<input type="checkbox"/> Managers frequently met to identify problems and corrective actions. However, because the corrective actions were not effectively tracked, most of the actions were not completed.	<input type="checkbox"/> Corrective actions are tracked to completion by the organization. <input type="checkbox"/> Corrective actions that are past due are periodically reviewed, and actions are taken to complete the corrective actions.
	<input type="checkbox"/> Logs are incomplete or inaccurate. During incident investigations, they are of no help in determining what was going on in the facility.	<input type="checkbox"/> Expectations for keeping logs in a timely manner are enforced. <input type="checkbox"/> Logs provide sufficient detail to describe facility operations.
	<input type="checkbox"/> They let us use our judgment on using safe work practices. If we feel the risk is low, they told us we don't have to use them – "I was only in the confined space for a couple of seconds, so there is no need for all that paperwork and equipment. I just held my breath."	<input type="checkbox"/> Personnel are trained on safe work practices. <input type="checkbox"/> Workers understand the consequences of deviating from safe work practices. <input type="checkbox"/> The process for obtaining work permits runs smoothly to reduce the effort required to obtain the right permits. <input type="checkbox"/> Personnel are expected to use the proper system even if the system slows the work pace. <input type="checkbox"/> Personnel are not punished for apparent delays caused by using the proper safe work practice system.
	<input type="checkbox"/> Broken equipment, old containers, and trash are found around the facility.	<input type="checkbox"/> Equipment is kept clean so that process upsets and leaks are easily detectable.
	<input type="checkbox"/> Spills are not controlled or investigated.	<input type="checkbox"/> Tools and spares are located in specific locations. <input type="checkbox"/> Trash is promptly disposed.
		<input type="checkbox"/> Obsolete equipment is promptly removed.

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	<input type="checkbox"/> Personnel are assigned to tasks based on whomever is available, regardless of their qualifications to perform the specific task.	<input type="checkbox"/> Supervisors are aware of who is qualified to perform each task. <input type="checkbox"/> Personnel are assigned to tasks based on their qualifications to perform the specific task, not just their general job title.
	<input type="checkbox"/> Personnel crowd into the control room, making it difficult for operators to communicate with each other.	<input type="checkbox"/> Limits on control room access during startups and shutdowns are enforced. <input type="checkbox"/> The layout of the control room allows interaction between operators and maintenance staff without compromising operations.