

OPTION CHECKLIST NO. 9: STEAM DISTRIBUTION & UTILIZATION

<ul style="list-style-type: none"> • Fix steam leaks and condensate leaks.
<ul style="list-style-type: none"> • (A 3 mm diameter hole on a pipe line carrying 7 Kg/cm² steam would waste 33 Kilo litres of fuel oil per year).
<ul style="list-style-type: none"> • Accumulate work orders for repair of steam leaks that can't be fixed during the heating season due to system shutdown requirements. Tag each such leak with a durable tag with a good description.
<ul style="list-style-type: none"> • Use back pressure steam turbines to produce lower steam pressures.
<ul style="list-style-type: none"> • Use more-efficient steam desuperheating methods.
<ul style="list-style-type: none"> • Ensure process temperatures are correctly controlled.
<ul style="list-style-type: none"> • Maintain lowest acceptable process steam pressures.
<ul style="list-style-type: none"> • Reduce hot water wastage to drain.
<ul style="list-style-type: none"> • Remove or blank off all redundant steam piping.
<ul style="list-style-type: none"> • Ensure condensate is returned or re-used in the process. (6 C⁰ raise in feed water temperature by economiser/condensate recovery corresponds to a 1% saving in fuel consumption, in boiler).
<ul style="list-style-type: none"> • Preheat boiler feed-water.
<ul style="list-style-type: none"> • Recover boiler blowdown.
<ul style="list-style-type: none"> • Check operation of steam traps.
<ul style="list-style-type: none"> • Remove air from indirect steam using equipment.
<ul style="list-style-type: none"> • (0.25 mm thick air film offers the same resistance to heat transfer as a 330 mm thick copper wall).
<ul style="list-style-type: none"> • Inspect steam traps regularly and repair malfunctioning traps promptly.
<ul style="list-style-type: none"> • Consider recovery of vent steam (e.g. -- on large flash tanks).
<ul style="list-style-type: none"> • Use waste steam for water heating.
<ul style="list-style-type: none"> • Use an absorption chiller to condense exhaust steam before returning the condensate to the boiler.
<ul style="list-style-type: none"> • Use electric pumps instead of steam ejectors when cost benefits permit.
<ul style="list-style-type: none"> • Establish a steam efficiency-maintenance program. Start with an energy audit and follow-up, then make a steam efficiency-maintenance program a part of your continuous energy management program.