Analysis of the damage mainly caused by chemical cleaning equipment

1 aluminum fin cool exchanger pickling corrosion
A petrochemical plant aromatics plant more air cooler, carbon steel pipe go hydrocarbon, outside the tube aluminum fin through a fan cooling. The long run, the aluminum fin deposition dirt greasy, effect of the cooling effect, need to spray cleaning, have adopted 5%HCl+Lan826+ surfactants or surface active agent 5%HNO3+Lan826+; but the aluminum fins are not bright, therefore in the cleaning agent together with a small amount of HF. after spraying, although aluminum fin surface "take on an altogether new aspect", but careful observation of aluminum fin have serious corrosion, and some even as thin as a sheet.
2 titanium copper condenser chemical cleaning and corrosion
A petrochemical ethylene plant using seawater cooling water circulator, original brass tube bundle, due to corrosion leakage switch to titanium tube bundle, the shell as raw steel, both sides of the water chamber or head still raw brass clad. Tube shell go go water, steam, after a running phase, oxide scale shell deposition of silicon containing needs cleaning, some companies use 10%HNO3+0.5%HF+ solid corrosion inhibitor. Corrosion inhibitor can avoid the corrosion of the steel shell, but not slow down HF on the corrosion of titanium tube, can be the pickling time control in <1h, but the number of pickling titanium tube will thinning. The tube side walk seawater basically no fouling, but the requirements of the factory again to clean pipe process, with the shell acid cleaning of titanium tube was not necessary passivation, but took the liberty of construction personnel with sodium nitrite (adding ammonia to adjust the pH) passivation, so that not only the drugs? Liang fees, but also because of ammonia sub 6 Shaw acid sodium on the inner wall of the copper composite water chamber will cause erosion, may also induce SCC. through a timely stop, eliminate passivation solution, reoccupy clear water is rinsed repeatedly, to avoid accident.