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| **NO** | **NAME** | **FREQUENCY** | **UNIT** | **DESIGNED SET POINT** | **OPERATING RANGE** | **Check/Record** | **RESPONSE** |
| 2 | CS PH3 | Regularly, at least once per shift | pH | 8.5 | 8 to 9.5 | Check regularly on data logger. Take weekly sample from scrubber blow down and verify probe calibration with calibrated handheld pH meter. Monthly remove probe, clean and re-calibrate as per manufacturers instruction. | Sodium hydroxide solution (10%) is dosed to maintain an alkaline pH for absorption of reduced sulphur and base reactive volatile compounds. The pH of the caustic scrubber must be maintained above 8.5 to allow for effective absorption. Excessively high scrub liquor pH (<10) will resulting excessive consumption of hydrogen peroxide by autocatalysis. |
| 7 | AS PH 2 | Regularly, at least once per shift | pH | 3.8 | 3 to 5 | Check scrub liquor pH regularly on  Controller Display Panel and record on data logger.  Take weekly sample from scrubber blow down and verify probe calibration with calibrated handheld pH meter.  Monthly remove probe, clean and recalibrate as per manufacturers instruction. | The sulphuric acid scrubber removes nitrogenous (ammonia, trimethyalamine et) and other acid reactive volatile compounds from the process vapour stream by dissolution and acid-base chemical reaction. In order to perform effectively an acidic pH (<5) must be maintained in the recirculating scrubber liquor. A pH controller automatically adjusts the flow (dosing rate) of sulphuric acid to the scrubber to maintain the pH at a pre-determined set point.  - An alarm on the central control panel will indicated scrub liquor pH outside normal set point limits – immediately investigate and remedy.  - Acid scrubber liquor pH in excess of 6 may result in a reversal of chemical reactions and result in the desorption of ammonia and TMA from scrubber column. |
| |  |  |  | | --- | --- | --- | | **LEGEND** | | | |  | **DESCRIPTION** | | | CS PH3 | Caustic Scrub Liquor pH value | Displays on control panel | | AS PH 2 | Acid scrub liquor pH | Check pH on control panel | | | | | | | | |