**Failure Modes and Effect Analysis:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Process Step/Input** | **Potential Failure Mode** | **Potential Failure Effects** | **Potential Failure Causes** | **Action Recommended** |
| Bits in packets | -Receiving TNC/Computer mistakes bits for flags | **-**misinterpretation of information from receiving end  -disposal of packet due to invalid size | -Bits, anywhere in payload of KISS packet, are arranged as “11000000”  -Bits, anywhere not in flags of HDLC packet, are arranged as “01111110” | -**Bit stuffing:**   * In KISS mode, a “1” is added after every “00000” arrangement in payload * In a HDLC, a “0” is added after every “11111” arrangement |
| Packet format | -Invalid Packet Format:   * Less than 136 bits in frame * Not bounded by opening and closing flags * Not octect aligned | **­**-Inaccurate information received | - | -Receiving TNC disposes packet |
| Transmitter | -Transmitter is kept on for an extensive amount of time | -Receiver is polling for an extensive amount of time for frames to be sent | - Delay in frames being sent | **-Inter-Frame Time Fill:** when necessary for a TNC to keep transmitter on while not sending frames, flags should be sent to fill in timebetween frames being sent |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

