***FIT Master Procedure Terms and Conditions Avoidance List***

***The premise… the way procedures are written can either enable excellent usage, performance and outcomes, or drive errors or violations that could result in bad outcomes.***

There are as many as 25 known “procedure error traps” that *drive* users to make mistakes or violate rules which, if managed, reduce the probability that bad things will happen.

The Top 5 that should be defended against as a minimum are:

* Field Decisions – the step or process requires the user to make a decision where the options are not identified for them.
* Embedded Difficulty – The steps are written in a way that is mentally difficult (hard to remember either long term or short term) or physically difficult (easy to avoid or give a perception that it isn’t needed or necessary).
* Vague or Misleading Information – the ambiguity of the step allows for variable performance that could produce unpredicted or undesired results, or, the way a step is written misleads the user to do something that wasn’t intended (or to not doo something that is intended).
* Conflicting Instructions – Actions that are required by procedural steps but are contrary to the normal actions expected by the workers or formats that are “different” to the user including inconsistent actions, inconsistent words, inconsistent expressions, or inconsistent format.
* Multiple or Embedded Actions – Three or more discreet actions in a step, or actions in a note, caution, or warning.

**Field Decisions**

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| **Decision driving terms** | **Pop-up text?** |
| If applicable  When applicable | Describe applicability or provide a decision table |
| If needed  When needed | Describe when needed and when not needed |
| If appropriate  When appropriate | Describe why and when it would be appropriate |
| If necessary  As necessary | Describe conditions that would make it necessary |
| If desired | Describe conditions under which it should be done or avoided |
| If required | Describe the requirements or use an applicability table |

Vague terms increase the likelihood that the user will misunderstand or misinterpret a procedure step resulting in an error in performance of the task. The writer should avoid:

* Abstract verbs: Impact, Affect, Analyze, Determine, Review, Check, Ensure, Verify
* Abstract adjectives: Slow, Fast, Sufficient, Normal, All, Periodically, Routinely
* Abstract phrases: When Directed, As Soon As Management …., May be, Should

| **Vague and Abstract Terms to avoid…** | **How is it used incorrectly?** | **What is a better way to say it?** |
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| Impact | Maintenance work which could impact fill and vent shall ... | The following maintenance work (include specifics as to how the task impacted) |
| Affect | Systems which could affect the power supply… | The following systems....(list with specific affect on power supply) |
| Analyze | Analyze oxygen concentration to  determine... | Measure the oxygen concentration and compare to known limits… |
| Determine | Determine the requirements for  pump overhaul... | Select one of the following four requirements for pump overhaul based on...[describe bases] |
| Check | Check status of… | Record status and compare to known values… |
| Normally | This step is normally performed... | This step is performed unless... |
| Sufficiently | Drain the water until level is  sufficiently low enough to… | Drain the water until level is less than 3 inches below… |
| Review | Review steps 2.1-2.3 to  determine... | Record oxygen concentration in steps 2.1-2.3 and… |
| All | All test points shall... | The following test points ... (list test points) |
| Approximately | Fill the tank to approximately 3  inches above... | Fill the tank to 2.5-3.5 inches above... |
| And/or | If valve 24 and/or valve 25... | When *Either* valve 24 OR valve 25... |
| When directed | When directed to... | When directed by the yard operator... |
| As soon as | Notify \_\_\_- as soon as the sample  is analyzed... | Within 10 minutes of analysis completion, notify \_\_\_\_ (describe who to notify) |
| If desired | If desired, ... | IF [describe condition that exists] … THEN [describe required actions] |
| Periodically monitor | Periodically monitor the  temperature... | Monitor the temperature every 10-15 minutes |
| Erratic response | When the meter shows an  erratic response ... | When the meter fluctuates more than 50 psig... |
| Plant Management | With Plant Management  approval… | Upon approval from the Plant Manager or designee... |
| May be | The following steps may be performed in any order... | The following can be performed in any order when [describe conditions under which this is true]  OR  The following can be performed in any order UNLESS [describe conditions under which this is true] |
| SHALL | The operator SHALL remove and sign the tag… | When lockout-tagout is no longer needed, remove and sign the tag |
| Should | The engineer should consider heat load… | For rooms that directly connect to the outside consider the heat load |
| May | The electrician may substitute other appropriate PPE | Other PPE can be used when it meets or exceeds the [describe minimum standard] |

**Other items of note**

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| **Error Trap** | **Pop-up text?** |
| More than 3 actions in a step | Consider breaking actions up into separate steps |
| Action contained in a Note, Caution or Warning | Note, Cautions and Warnings are informational and should not contain actions. Move action to a step. |
| Presence of a Note, Caution or Warning | Ensure Notes, Cautions, or Warnings appear directly before and on the same page as the first step they apply to |
| Go To | Ensure you describe the needed condition at the destination and how / when the user should return to this step |
| Per | Ensure you describe how to use the document, section or step you are sending them to and what the return criteria are (if any) |
| More than 4 indentures  Example   1. Section    1. Step Level 1       1. Step level 2          1. Step Level 3 | Going beyond 4 indentures increases the likelihood that the user will make an error. Consider describing the task in a way that reduces the number of indentures |
| More than 5 bullets in a row   * Bullet 1 * Bullet 2 * Bullet 3 * Bullet 4 * Bullet 5 | When bullets are used in procedure steps it denotes the opportunity to be performed in any order and many users will attempt to do them from memory after the initial reading. Limiting the number of bullet reduces the probability of user error |