2 Oct, 2018

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**Progress Report – 1 Sep 2018 – 30 Sep 2018**

Contract Number: HSHQDC-06-D-00022

Contract Number 7500097279

Order Number: HSCG23-07-J-TED150

Task Order – Performance Work Statement (PWS) 1.12

Attachments: (1) SAROPS subcontractor financial reports.

1. **Lots of Sprints and Points meetings.**
2. **Worked with Jack proofing and suggesting his write-up on SLDMB. Also ran cases and make screen captures from my gui showing current way that SLDMBs are handled. Read through Eoin’s proposal on SLDMB, and still have questions.**
3. **Worked a lot on the “one-legged” case for UP/DN sensors. Had some bugs in my ladder-pattern-recognize code for the 1, 2, and 3 legged cases. The problem is that the final leg doesn’t have to be the same length, the cross legs merely need to be “close” to the same length, as do the search legs, etc.. All that is straightened out. Really, creep direction should never be given, and track-spacing should always be given. Right now, creep direction is always given and track-spacing is never given.**
4. **Worked some on discussions about what work should be attributed to which numbers (1604, 1610, …)**
5. **Explained to Art Allen the different “states” that a S/V particle can be in. and how the particle file’s writeOcTables tables are written out.**
6. **Long improvement in Sim write-up. AFAIK, my Sim and Plan documents are the only documents that describe any code and are not just computer-generated summaries of code. The improvements address 2.2 vs 2.1, and include a ParticleFile description, Sim.properties, and the S/V scenario**
7. **Had some trouble with the ParticleFile. Made some changes which broke the system because of undocumented requirements. Discovered the undocumented requirements and documented them.**
8. **A lot of analysis using my generated spreadsheet for UP/DN sensors. One thing we re-discovered is that PFails and POS is updated only at the end of each leg, not at the the individual detections. This is technically correct (LRC gives the pFail when evaluated at cpa, but only for the entire leg), but we probably want to assign the pFail for that particle at the time of cpa. Wrote this up and am awaiting the next sprint which it will, I hope, be on, so I can work on it then.**
9. **Gave suggestions for test cases. I’d emphasize LKP+DR (it’s never run so errors could easily be undetected), Great Lakes (why not? And it’s much trickier), Reverse Drift (again, easy to slip through the cracks), LOB (many ways to fail), and UP/DN sensors with few legs.**
10. **Added pre-distress parameters requirement. Had some trouble with pre-distress half-life. Now THAT’s obscure! I doubt that will ever be used.**
11. **Chased down a few apparent red herrings. Jim caught one related to UP/DN; some of these LRCs are very flat so even flying close to the particles and having a high sweep width doesn’t mean a low pFail. Jim graphed the LRC in question and it makes sense.**
12. **IPR this month, but I don’t think I’ll be saying anything at it.**

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| **Name** | **Activity Worked** | **Hours Worked** | **Hourly Cost** | **Total Cost** |
| Kratzke | Coding/Doc/Travel | 185.24 | -- | -- |
|  |  |  |  |  |
| **Totals** |  | 185.24 |  |  |
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