Case Study
Risk Information Sheet After Tracking and Control

ID 11		Risk Information Sheet		Identified: 11/ 1/ 95
Priority	7	**Statement** It has recently been decided that the Infrared sensors will be developed in-house and how they will communicate and how sensor data will be processed will be based on assumptions until the detailed design is baselined; the accuracy and completeness of those assumptions will determine the magnitude of change in the IR-SIP Instrument Controller CI and Infrared Sensing Unit CI interface requirements - it could be minor or catastrophic.		
Probability	M			
Impact	M			
Timeframe	N	**Originator** K. Green	**Class** Requirements	**Assigned** **to:** J. Johnstone

Context The AA program is in the Systems Preliminary Design Phase and the IR-SIP project software is in the Software Specification Phase.

- This is the first time these sensors will be used on a NASA mission. They will still be under design and definition during the IR-SIP Controller's software specification through implementation phases. Therefore, assumptions about the interface will have to be made in implementing the IR-SIP CSCI and if those assumptions are incorrect, then software rewrites will be necessary. We do have access to a reasonable set of assumptions and information from a contractor who has developed very similar sensors, but again, we don't really feel 100% confident in those assumptions.
- Problems were not anticipated in the current success-oriented schedule so there is no slack time if the impact of the changes is major. Schedule slips, cost overruns, and reduction in adequate testing time are all possible if the assumptions prove false.
- System testing does not begin until very late in the development, so if problems are encountered there is usually no time to make changes in the hardware. Therefore, software must provide work-arounds for problems encountered.

Approach: Research / Accept / Watch / Mitigate

[**Mitigation goal/success measures:** Reduce the probability and impact of incorrect interface assumptions to a minimum: estimated low probability and low impact. Ideally, completion of prototype tests will show that assumptions we got from EasySensor were correct and there is no impact at all.]

1. Build prototypes of the IR-SIP CSCI software primitives needed to control the interface with the Infrared Sensing Unit early in the software requirements phase.

   - Start by 1/10/96. Prototype should contain all the functionality defined by that date for the configuration of the Infrared Sensing Unit. Complete by 1/30/96.

2. Have early interface tests with the Infrared Sensor Unit to confirm functionality and control issues. Allocate enough time for software work-arounds to be developed if problems arise.

Mitigation Strategy (cont.)

- Test of the interface between the two subsystems will be completed by 2/3/96.

- Second prototype to command the transmission of sensor data from the Unit to the IR-SIP CSCI will be started by 2/12/96 and completed by 2/20/96.

- All subsequent interface tests will be performed by 2/28/96.

3. Feed information from the two prototype tests into updates to the Interface Requirements Specification and the associated sections of the schedule by 3/2/96.

4. Determine the impact of the revised requirements by 3/6/96.

Contingency Plan and Trigger

Trigger: If the 2/12/96 or 2/28/96 dates cannot be met, put the contingency plan in place.

Contingency Plan: Elevate this as one of the top 10 project risks and request that project reserves be used to pay for additional contract support to get the two sets of requirements firmed up (i.e., configuration and data transfer). If additional contract resources are not available, slip the schedule for completion of the prototypes to be done by March 20, and request that project reserves be used to pay for additional resources to be added to the software design and implementation to make up the schedule slip.

Status	Status Date
Interface tests in progress - no significant difficulties found so far. Expected completion of tests on 2/26	2/20/96
Second prototype complete	2/7/96
Testing of the interface complete, ran a bit late but no significant difficulties found with the interface	2/4/96
First prototype complete	2/1/96

Approval	Closing Date	Closing Rationale
_____	__/__/__	