CIS and Personality

SNUG Process - draft for discussion

CIS and Personality process

Primary objective: To reduce the potential for unsafe operation, by setting the level of expectation for checking and testing in NZ.

Secondary objective: To provide proformas to assist with development and testing of CIS and personality.

Where we're at: Feedback received from key developers & testers, draft doc now being circulated for wider feedback.

SNUG
SIGNALS NZ USER GROUP

Background

- All signals require a Controller Information Sheet (CIS) and personality (SFT).

- **CIS** is a technical document specifying controller functionality and contains layout, phasing, signal group config, detector operation, time settings, conflict matrix, and any special logic.
  It is used by the contractor, SCATS operator, and SFT developer.

- **SFT** ("software") is a file containing coded information that tells the traffic signal controller how to operate (as per the CIS).
  It is created using a tool from SCATS, and the developer loads the information from the CIS along with any custom code.

Discussion

- Creating the SFT is a specialised field

  there are limited competent people in NZ because:

  - Practitioners need good knowledge of signal design, road safety, SCATS, controller operation, Hardware, software, standards & specifications

  - Becoming competent requires a large investment (software, training)

  - It's a small market for CIS and SFT development, and on-going work is necessary to maintain competency

  - It therefore requires a strong interest in the field to be pursued

- It's common for CIS and SFT to be completed by the same person as they require similar skillsets, but there's a risk the designer's intended operation may not be known to the CIS developer

  - Therefore it's proposed that a 1-page "Traffic Signal Design Summary" is given to the CIS developer by designer

Checking & Testing

- Checking of **CIS** (by independent practitioner)

  - Check sheet completed and kept on file as evidence

- Checking of **SFT** (by independent practitioner)

  - Done using "WinTraff" simulation tool, and test sheet provided for file

  - File names update with each modification e.g. CIS=V2b, SFT = V2bc

- **Bench test of SFT** (by signal contractor)

  - Run on a physical controller

  - All conflicts are checked and proven

  - Bench test form completed and provided for file

- **Installation**

  - Flash test

  - Site acceptance Test (SAT) completed – full/short?
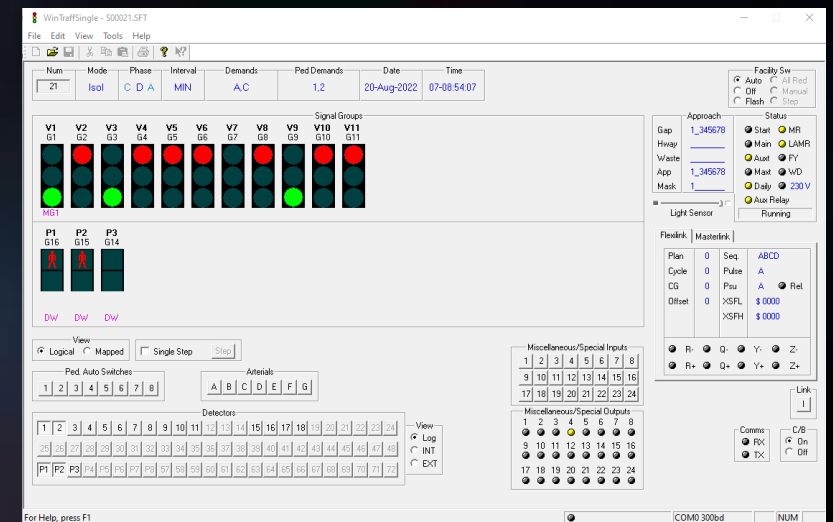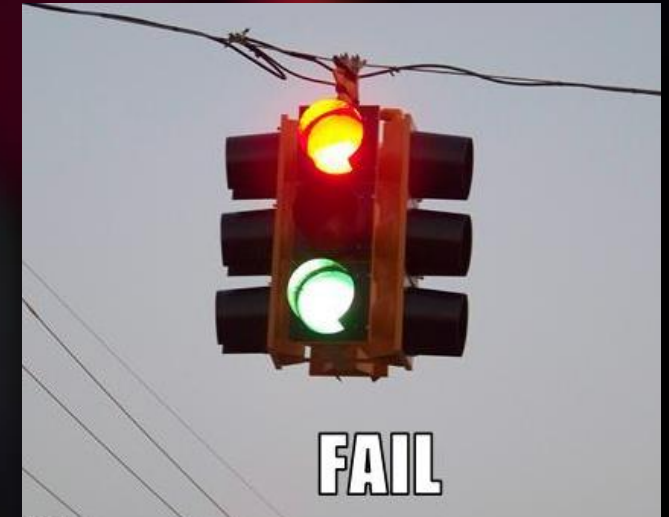
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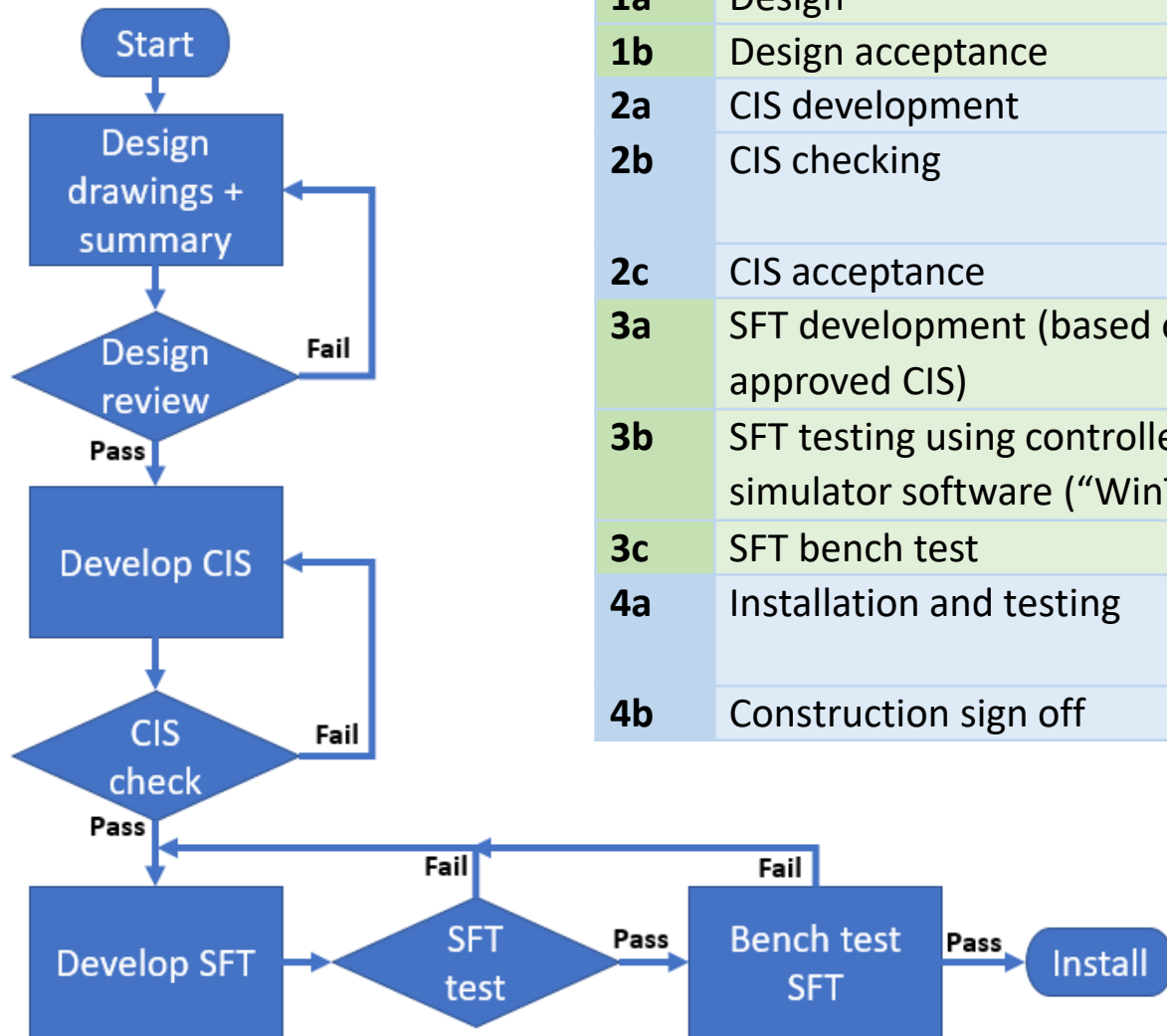
#	Stage	Typically completed by	SNUG form required
1a	Design	Traffic signal design consultant	Design summary proforma
1b	Design acceptance	RCA or representative	
2a	CIS development	Specialist	
2b	CIS checking	Specialist (independent of CIS developer)	CIS check sheet
2c	CIS acceptance	RCA or representative	
3a	SFT development (based on approved CIS)	Specialist	
3b	SFT testing using controller simulator software ("WinTraff")	Specialist (independent of SFT developer)	SFT test sheet
3c	SFT bench test	Contractor	Controller bench test form
4a	Installation and testing	Contractor / RCA or representative	
4b	Construction sign off	RCA or representative	SAT form

Site Acceptance Test – Short Form

- Question: When is a SAT required?

- Question: When is a flash test required?

- HCC have developed a **Short Form CIS for existing sites**

- New sites need full form, upgrades/changes just use short form
  - Flash test required only if wiring has changed

- Online option available, mobile phone friendly (MS forms, questions trigger prompts)

- Should SNUG adopt something like this and provide guidance?

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Site Acceptance Test - Short Form (for upgrades) ⅗

HCC Traffic Signal SAT form for site upgrades

1. Site number *

   Select your answer ⌄

2. Is it safe to carry out the work now? *
   Check the site priority listed above (low/medium/high/critical)
   Software or wiring changes require a FLASH TEST which should only be done if site is low priority OR low traffic OR night time OR under traffic management.

   ○ Yes - ok to proceed

   ○ No - come back another time or arrange TM

3. New Poles Installed? *

   ○ Yes

   ○ No

Feedback please!

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