| Phase                       | January   | February   | March  | April  | May  | June  |
|-----------------------------|---|--|--|--|--|---|
| Reconnaissance              | Scan for email servers, find account credentials                            | Find users or systems that have access to CPS                                      |  |  |  |   |
| Weaponisation               |   | Customise malware for CPS information gathering                                    |  | Customise malware for RTU reset  |  |   |
| Delivery                    |   |  | Deploy malware to CPS<br>through engineer's USB<br>thumb-drive |  | Deploy malware to CPS<br>through engineer's USB<br>thumb-drive                             |   |
| Exploitation                | Access Virtual Private<br>Network (VPN)<br>connected to IT<br>network       | Compromise CPS engineer's computer   |  |  | Suppress alarm reporting to main server  | Scheduled task<br>executes and<br>manipulates<br>connected RTUs |
| Installation                | Install Cobalt Strike<br>beacon agent in IT<br>network for remote<br>access | Install Cobalt Strike<br>beacon agent in private<br>IT network connected<br>to CPS | Malware executes and collects network information              |  | Malware executes on<br>CPS and hides its<br>process, awaits<br>scheduled task<br>execution |   |
| Command and<br>Control (C2) | Establish remote connection with beacon in IT network                       | Establish C2 callback<br>to beacon in IT network                                   | Maintain C2 access   | Malware detects<br>engineer's USB thumb-<br>drive and saves CPS<br>information in USB<br>thumb-drive | Maintain C2 access   | Maintain C2 access  |
| Actions on<br>Objectives    | Establish initial<br>(primary) foothold                                     | Compromise "patient zero"  | Establish secondary foothold in CPS                            | Information harvesting and retrieval   | Staging and preparation for final attack   | CPS operations and services disrupted                           |