

# NATIONAL RESEARCH FOUNDATION PRIME MINISTER'S OFFICE



# Data Collection at Secure Water Treatment (SWaT) Testbed 20 July 2019

• Plant start time: 12:35 PM (GMT +8)

• Plant normal run without any attacks: 12:35 PM to 2:50 PM

• Six attacks, described below, were carried out between 3:08 PM to 4:16 PM

• Plant stop time: 4:35 PM

### 1. Attack on FIT401: Spoof value from 0.8 to 0.5

Intent: To stop de-chlorination by switching off UV401

Start time: 3:08:46 PM End time: 3:10:31 PM

# 2. Attack on LIT301: Spoof value from 835 to 1024

Intent: To eventually lead to underflow in T301

Start time: 3:15 PM End time: 3:19:32 PM

#### 3. Attack on P601: Switch from OFF to ON

Intent: To increase water in raw water tank

Start time: 3:26:57 PM End time: 3:30:48 PM

# 4. Multi-point Attack: Switch from CLOSE to OPEN (MV201) and OFF to ON (P101)

Intent: To overflow tank T301

Start time: 3:38:50 PM End time: 3:46:20 PM

# 5. Attack on MV501: Switch from OPEN to CLOSE

Intent: To drain water from RO

Start time: 3:54 PM End time: 3:56 PM

#### 6. Attack on P301: Switch from ON to OFF

Intent: To halt stage 3 (UF process)

Start time: 4:02:56 PM End time: 4:16:18 PM