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Memorandum

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Subject	**Activity 1: Assessment – Evaluate Electrical and Instrumentation and Control Systems at the Monterey Water Reclamation Facility**
Project Name	JEA System Resiliency Program, Task Order No. 4, Monterey WRF Assessment Services
Attention	JEA
From	Jacobs Engineering Group Inc. (Jacobs)[1]
Date	September 30, 2019
JEA Contract No.	174097

Executive Summary

The Monterey Water Reclamation Facility (WRF) was constructed in 1996 for United Water of Florida. JEA acquired the Monterey WRF in 2002 when it acquired United Water's assets while assuming responsibility for water and wastewater in Duval, Nassau, and St. Johns counties. The WRF's process and control systems have changed over time; however, the two systems have not been fully coordinated or documented as they have been implemented.

In September 2018, a power failure caused a sanitary sewer overflow (SSO) at the Monterey WRF. Under the JEA System Resiliency Program, Jacobs assessed and recommended improvements to the electrical and instrumentation and control (I&C) systems to reduce the likelihood of a similar SSO event. Following a site visit on November 7, 2018, and follow-up conversations with JEA staff, Jacobs engineers identified issues and proposed solutions to address the issues. Table ES-1 includes the electrical and I&C issues and proposed solutions and recommendations.

This technical memorandum (TM) documents the most critical issues encountered during the site electrical and instrumentation and control (I&C) system assessment of the WTP. This TM is organized into separate sections for electrical and I&C assessment and resolution of issues.

Table ES-1. Proposed Solutions for the Monterey WRF
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No.	Description	Proposed Solutions/Recommendations
Electrical Reliability Issues		
1	Single Phasing Event Goes Undetected During the Storm	Install Schweitzer SEL-751 relay programmed to sense single phasing event and trip main utility breaker in 480-volt (V) switchgear (SWGR) and generate alarm.
2	Phase Unbalance and Under Voltage Condition went Undetected	Install Basler Model #ES-47N/27 relays at motor control center (MCC) buses and major motor feeders to detect the phase unbalance and/or under voltage conditions, and generate alarms/trip starters.

[1] On December 15, 2017, CH2M HILL Engineers, Inc. became a wholly owned subsidiary of Jacobs Engineering Group Inc.

Table ES-1. Proposed Solutions for the Monterey WRF

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No.	Description	Proposed Solutions/Recommendations
3	Failure to Open the Utility Breaker at 480-V SWGR, preventing standby Generator Breaker Closure to Provide Standby Power to SWGR	Replace the utility and generator side main breakers at the SWGR. JEA plans to replace the 480 V Unit Substation with rack out breakers to bring them up to standards. This project would include new transfer breakers/controls tied to the onsite backup power generator. A new isolation breaker between the pad mount transformer and the switchgear main is planned to facilitate work on the switchgear.
4	Electrically Operated Influent Valves "Fail Closed" on Uninterrupted Power Supply (UPS)-backed Control Power Failure during Storm causing an SSO Event	Replace the faulty UPS providing control power to the Sequential Batch Reactor (SBR) Control Panel and modify the SBR Control Panel control logic.
5	Reliability of Existing Obsolete MCC is Questionable	Remove existing MCC.
6	Not All Power System Related Signals are Connected to the Plant Programmable Logic Controller (PLC) System	Wire all power-related signals to the PLC system at the Monterey WRF and transmit to the Ridenour Water Treatment Plant (WTP) Control Center Supervisory Control and Data Acquisition (SCADA). Prepare an input/output (I/O) list of all power system related signals to wire to RIO-3. Transmit these signals to the Ridenour WTP Control Center SCADA. Include data links to SCADA from the existing power meters and new SEL-751 relay.
7	Path of Incoming JEA 26-kilovolt (kV) Overhead Line Appears to be too Close to Tree Limbs or Trees	Request that the JEA Transmission and Distribution (T&D) Planning Group inspect the line route for proximity of trees, tree limbs, or shrubs. If required, prune the tree limbs to create the required line clearance.
8	Quality and Reliability of the Incoming Power Supplied by the JEA Overhead Line	Power quality (PQ) data were received and analyzed. Pursue anomalies in the PQ data with JEA Systems Group.
9	Lightning Protection is Not Consistently Installed throughout the Plant Process Areas	Install lightning protection in WRF areas currently lacking lightning protection.
10	Lack of Arc Flash Hazard Warning Labels on Electrical Equipment	CE Power Company will perform short circuit, breaker coordination, and arc flash studies for all facilities under their contract.
I&C Reliability Issues		
1	SBR Influent Valve Wiring	Add a new PLC output and relay for the SBR Influent Valve Close Command. Reprogram PLC to maintain OPEN and CLOSE commands separately. Reconfigure control panel wiring and control valve actuator wiring for separate OPEN/CLOSE commands, yielding a stop position on loss.
2	Integrate Facility Power Statuses with SCADA System Network	Wire all status signals from the plant generator, UPS, and recommended phase monitoring devices to the Siemens PLCs. Display status values on new recommended plant SCADA graphics. Configure SCADA network so all Monterey WRF screens are visible at the Ridenour WTP Control Center.
3	Influent Pony Pump Monitoring	Wire new I/O between the plant SCADA system and the pony pump engine control panel. Include run status, fault status, and fuel indication.

Note:

Prior to visiting the site, Jacobs staff reviewed available as-built drawings for the electrical and I&C processes to prepare questions for JEA staff during the onsite inspections. Additionally, the drawings were referenced during the site visit to determine their accuracy. It many cases the drawings did not match the current state of the facility. Deficiencies in the records limited the level to which the facility could be assessed based on onsite visual inspection alone. Although the site visits were valuable in identifying the issues and developing solutions, the outdated record drawings impacted the degree to which the assessments could be conducted. Updating the record drawings to represent the current facility is recommended.

1. Background

In September 2018, a power loss incident occurred at the Monterey WRF during a storm event that resulted in a SSO of the influent manhole and wet well. JEA asked Jacobs to assess and recommend improvements to the electrical and I&C systems to reduce the likelihood of a similar SSO event. As a pre-site visit activity, Jacobs electrical and I&C engineers studied the existing facility drawings to become familiar with the plant electrical, process, and instrumentation systems.

Under Task Order (TO) No. 15, a kickoff meeting was combined with the team site visit on November 7, 2018, at the Monterey WRF. During the kickoff meeting, the plant staff provided an overview of the plant electrical and I&C system problems encountered during the recent wet-weather event. The issues were discussed in more detail with plant staff during the site visit. During the site visit it became clear that over the years, the plant had undergone several changes, mainly in the process and instrumentation areas, that were not incorporated in the record drawings. As an example, a diesel engine driven pony pump was installed to move wastewater when there is failure of both the utility and the standby generator power (undocumented change), and the PLC system has been upgraded to Siemens PLC hardware and the SCADA software package has been changed or is in the process of being changed from iFix to WinCC (work in progress or just completed). The PLC and SCADA system upgrades were initiated to bring the Monterey WRF in line with the current JEA Standards. The equipment manufacturer and System Integrator shop drawings were not available.

This technical memorandum (TM) documents the results of the electrical and I&C field assessment and the proposed solutions and recommendations for the issues identified. The descriptions and recommendations in this TM are backed up with sketches, photos, technical papers, and manufacturer catalog cuts as applicable. This backup documentation is included as attachments to this TM. Additionally, detailed discussion on some of the proposed solutions presented herein are contained in the TO 15 Monterey WRF Electrical and I&C Assessment TM and are not repeated in this TM due to its volume.

2. Electrical

2.1 Overview of Existing Electrical Power System

Figure DE-4 in Attachment 1 shows a simplified electrical one-line diagram of the existing Monterey WRF power system. A JEA 26- kV overhead line serves a JEA 26-kV, grounded wye/480-V grounded wye stepdown transformer. The JEA 26-kV service drop includes pole-mounted drop out fuses on the primary feeder. The 480-V secondary underground feeder from the transformer feeds the 480-V SWGR bus through a main incoming breaker. A 700-kilowatt (kW) standby generator is connected to the SWGR 480-V bus through a generator breaker. The generator breaker and the main utility (JEA) breaker are electrically interlocked to prevent simultaneous closure of both breakers.

The load transfer to and from the generator in both MANUAL and AUTOMATIC modes is OPEN transition, which means that the generator is NEVER allowed to parallel with the utility power source.

The 480-V SWGR has four major outgoing feeder breakers feeding power to MCCs-1, -2, and -3 in the main electrical room and an old obsolete MCC in the back room (see Figures DE-4 and DE-5 in Attachment 1). The major plant process loads for influent/effluent pumping and SBRs are split in to MCC-1 and MCC-2 for reliability and redundancy. MCC-3 is dedicated for sludge dewatering loads with space for future MCC extension if an additional centrifuge, influent pump, or effluent pump is needed to increase the plant capacity.

2.2 Availability of Existing Record Drawings and Manufacturer/System Integrator Drawings

As previously stated, the existing record drawings have not been updated to reflect the changes at the WRF. The process and instrumentation diagrams (P&IDs) do not show the pony pump and related process changes; likewise, changes in I&C and electrical systems are not shown. The electrical SWGR

and MCC manufacturer's shop drawings could not be located. The original system integrator (C2I, Atlanta) shop drawings were not available because another system integrator was engaged for the PLC upgrades. This work is in the final stages of completion; therefore, those shop drawings were not available.

2.3 Existing and Ongoing Upgrades at the Facility

A diesel engine operated pony pump and associated piping were added to move wastewater when both power sources (utility and standby generator) failed. As stated previously, the PLC hardware was changed to Siemens and the SCADA package was changed to WinCC. The Monterey SCADA screens at the Ridenour WTP Control Center are being redesigned and updated to allow remote plant monitoring.

During the site visit several reliability/redundancy issues were identified based on the plant electrician input, inspection of hardware, and study of the existing drawings. Each issue was analyzed and researched to develop a solution that would best resolve the issue. The next section describes 11 electrical reliability issues and their proposed solutions.

2.4 Reliability Issues and Proposed Solutions

1. Electrical Reliability Issue No. 1: Single Phasing Event Goes Undetected During the Storm

The simplified overview Figure DE-1 (Attachment 1) and Photo PE-2A (Attachment 2) show the "Drop Out Fuses" on the JEA 26-kV incoming overhead line service drop for the Monterey WRF. The JEA electrician indicated that during the storm event one of the three fuses on the 26-kV overhead line blew up causing an open phase, or a single phasing event at the plant.

The condition described may be one of the reasons there is a delay in sensing the under-voltage condition on the utility incoming low voltage side, since the secondary low voltage side does not exhibit loss of voltage under light load conditions. Precise and quick detection of single phasing in power systems is a difficult problem and needs to be addressed to improve power system reliability and resiliency, especially under extreme wet-weather conditions.

Solution for Electrical Reliability Issue No. 1: Install a Protective Relay Configured and Programmed to Precisely and Quickly Identify the Single Phasing and Take Corrective Action

Description of Protective Relay Hardware/Interconnection: Figure DE-1 (Attachment 1) shows a conceptual application using a Schweitzer SEL-751 protective relay to detect the single phasing condition. A detailed discussion of the application of this relay is contained in the TO 15 Monterey WRF Electrical and I&C Assessment TM.

2. Electrical Reliability Issue No. 2: Phase Unbalance and Under-Voltage Condition went Undetected

According to the plant electrician, the under-voltage setpoint on the Eaton PQ meter part of the 480-V SWGR was set too low, at about 70 percent of its rated voltage of 480 V. Because of the phase loss issue described under Reliability Issue No. 1, even after the phase loss, the secondary side of the transformer still provided 3-phase power and the voltage may not have dipped to the lower 70 percent (334 V) limit set in the PQ meter. The utility main breaker did not receive the signal to trip and therefore stayed closed as if there were no power loss, which may have prevented the generator startup and generator breaker closure (caused by hardwired interlocks) to implement transfer to the generator power.

A backup phase unbalance/under voltage relay would improve the detection of the PQ meter problem, and allow proactive actions to avoid major malfunction of the standby generator operation. The relays can also be applied to major large motor feeders to prevent these motors from running on phase unbalance and under voltage conditions.

Solution for Electrical Reliability Issue No. 2: Install a Phase Unbalance Detection/Under Voltage Relay on each MCC Bus and Major Motor Feeders

Immediate Action: As an immediate action the plant electrician adjusted the under-voltage setpoint to 90 percent to allow more sensitive triggering of the under-voltage trip in the PQ meter.

Proposed Follow-Up Action: Figure DE-2 (Attachment 1) conceptually shows the application of voltage unbalance/under voltage relays in a typical MCC. A Basler Model # ES-47N/27 relay is recommended for this application. Detail discussion is contained in the TO 15 Monterey WRF Electrical and I&C Assessment TM. In a typical application, one relay is installed on the MCC main bus and several relays also can be installed on motor feeders feeding motors greater than or equal to 100 horsepower. These relays will help proactively detect phase unbalance or under-voltage events, and also offer protection against larger motors operating under single-phasing, under-voltage, or over-voltage conditions for prolonged periods causing damage to the motor windings.

3. **Electrical Reliability Issue No. 3: Failure to Open the Utility Breaker at 480-V SWGR, preventing standby Generator Breaker Closure to Provide Standby Power to SWGR**

During subsequent tests of the power failure scenario at the plant it was observed that there were mechanical problems with the main utility breaker operation. During a simulation of a power failure, the utility breaker failed to OPEN, which prevented the generator breaker from CLOSING even though the generator was running, and resulted in the inability to energize the SWGR bus with generator power. There are also issues related to the reliable operation of the main breaker auxiliary contacts that are essential for proper control operation.

Solution for Electrical Reliability Issue No. 3: Replace Existing Utility Main and Generator Breakers at the 480-V SWGR

Both the 480-V SWGR main utility and generator breakers have been operating beyond their useful life and the main utility breaker has been malfunctioning during transfer from utility to generator power, an extremely important function directly affecting reliability and resiliency of the standby power system. Both breakers will be replaced with equivalent new breakers. During the site visit, a new main utility breaker was already installed and the generator breaker was being installed (see Photo PE-1 in Attachment 2).

Additionally, JEA plans to replace the 480V Unit Substation with rack out breakers to bring them up to standards. This project would include new transfer breakers/controls tied to the onsite backup power generator. A new isolation breaker between the pad mount transformer and the switchgear main is planned to facilitate work on the switchgear.

4. **Electrical Reliability Issue No. 4: Electrically Operated Influent Valves "Fail Closed" due to UPS-backed Control Power Failure during Storm causing an SSO Event**

It was not the intent of the original design to have the influent valves "Fail Closed." In fact, all electrical valves are usually "Fail in Last Position" unless the valve is UPS-powered and the control logic drives the valve to a desired fail position of either OPEN or CLOSED. Review of the original P&IDs shows that only one valve installed on the influent line to the ultraviolet (UV) basin was designed to be "Fail Closed" by installing a dedicated UPS on the valve power supply, and using control logic to drive the valve to a CLOSED position during power failure events. This action prevents effluent flowing through the UV channels during a power failure when the UV disinfection system is not operational. Most of the standby generator power is available within a few minutes and the UV process starts working normally on standby power.

The control logic to OPEN or CLOSE an SBR influent valve is resident in the SBR Control Panel PLC. The SBR Control Panel receives control power from a UPS installed in the electrical room. A root cause analysis was performed of the sequence of events during the storm power failure that revealed the following:

- A single-phasing event was caused by a fuse blowout on the transformer primary side.

- As described in Reliability Issue No. 1, although one phase was down, the secondary side continued feeding 3-phase power to the plant (just like before the open phase event) including the valves. All SBR electric valves receive 480-V, 3-phase power.
- A UPS failure occurred and the SBR Control Panel lost control power to the PLC and the auxiliary relays that interface the PLC digital outputs (DOs) with the external valve control circuits for valve operation (see Figure DE-3, Attachment 1).
- The auxiliary interfacing relays (Corresponding Relay [CR]-1, CR-2, and others) were deenergized (see Figure DE-3, Attachment 1). Also, a single PLC DO and CR were used to drive valves to OPEN or CLOSED positions. The valve control diagram (Figure DE-3) shows that even if power were available to the valve, with the deenergized CR-1 relay normally open (NO) contact in OPEN state, the valve OPEN Coil could not be energized to drive the valve to the OPEN position. The normally closed (NC) contact of the same deenergized relay CR-1, however, could energize the CLOSED Coil to shut the valve. Following the same logic, all SBR electric valves were CLOSED shut.
- The influent pumps including the pony pump could not pump wastewater into the SBR causing an SSO event in an upstream manhole.

This root cause analysis shows that a single PLC DO and a single-control relay should not have been used to drive a valve to the OPEN or CLOSED position. The current logic in the SBR Control Panel is adequate under most scenarios; however, in the extreme scenario described previously it did not work correctly and caused a major reliability/resiliency issue.

Solution for Electrical Reliability Issue No. 4: Replace the Control Power UPS and Modify the SBR Control Panel Electric Valve Control Logic to avoid "Valve Fail Close Situation" in the Future

Replace Faulty UPS: The faulty UPS in the electrical room was immediately replaced with a new UPS. It is currently unknown if the UPS fail and low battery alarms have been wired to RIO-3 for local display and on the Ridenour WTP Control Center SCADA screens for the Monterey WRF. This issue is addressed in detail under the Electrical Reliability Issue No. 6.

Modify SBR Control Panel Logic: The proposed panel and valve control modifications require the following steps:

1. Modify the PLC logic and create a second independent DO for the valve CLOSE command.
2. Wire this DO in series with a new interposing relay labeled as CR-1A (Figure DE-3).
3. Replace the existing NC CR-1 contact with an NO CR-1A contact as shown in the valve control diagram.
4. Repeat Steps 1 through 3 for all electric valves controlled by the SBR Control Panel.
5. Perform field testing after the modifications are complete to make sure the system works as required. Include the test to verify that the valves remain open on control power failure. Disconnect the UPS control power to the SBR Control Panel and make sure the valves stay in the OPEN position. Restore the UPS control power.

Cost Opinion: The estimated order of magnitude cost for this modification is approximately $15,000 to $20,000, and includes the following items:

- Add required DO points. As shown in Photo PE-4 (Attachment 2), 1 DO module could be added in each PLC rack to cover 12 new DO points.
- Program the new DO points.

- Furnish, install, and wire 12 new interposing relays. Photo PE-4 shows the open SBR Control Panel, and existing interposing relays are identified with Note 1 in this photo. Additional new relays should be accommodated in the space available on the subpanel under the existing relays.
- Modify valve closing circuit for each of the 12 valves by replacing the existing relay contact with a new relay contact. Additional new interconnecting control wiring or raceway between the SBR Control Panel and the valves should not be required.
- Field test the modified panel logic and valve controls.

5. Electrical Reliability Issue No. 5: Reliability of Existing Obsolete MCC is Questionable

The existing obsolete MCC shown on Figures DE-4 and DE-5 (Attachment 1) and Photo PE-5 (Attachment 2) has reached the end of its useful life. The MCC has aged, has unreliable components with hard to get spare parts, and is very lightly loaded. Most process loads have been transferred to the newer MCCs. A component failure or an internal fault in this MCC can adversely impact reliable SWGR operation and the operation of newer MCC-1, -2, and -3, which adversely affects the WRF power system reliability and resiliency.

Solution for Electrical Reliability Issue No. 5: Remove Obsolete MCC to Improve WRF Power System Reliability

Remove Existing MCC: Figures DE-4 and DE-5 (Attachment 1) outline the steps involved in removing the existing MCC. The existing MCC loads need to be transferred to newer MCC-1, -2, or -3 depending on feeder breaker availability. As noted in Figure DE-5 (Attachment 1) and shown on Photo PE-6 (Attachment 2), Panel "ZZ" is one of the existing loads requiring transfer to any of the three newer MCCs. A new feeder and a 480-V/240-120-V transformer should be installed as shown on Figures DE-4 and DE-5, and the secondary of the transformer connected to existing Panel ZZ, after removing the existing feeder feeding Panel ZZ. Any other existing load should also be transferred to an alternate power source. Once all required existing loads are transferred and the existing incoming feeder cables/raceways from the SWGR to MCC removed, the existing MCC can be removed and the room cleaned. Finally, the existing 1,200-ampere (A) circuit breaker in the SWGR currently feeding the existing MCC would become a spare.

Cost Opinion: While difficult to determine, the estimated order of magnitude cost for this task is approximately $8,000 to $12,000.

6. Electrical Reliability Issue No. 6: Not All Power System Related Signals are Connected to the Plant PLC System

During discussions with the plant electrician, it became clear that several important power system related status and alarm points were not monitored at the Ridenour WTP Control Center SCADA screens, causing delays in response time. Several power system related signals shown in Figure DE-6 (Attachment 1) and on the record drawings were not connected to the PLC RIO-3 panels; therefore, they could not be monitored at the Ridenour WTP Control Center SCADA screens. This issue needs to be addressed to make the overall SCADA system more responsive during wet-weather conditions.

Solution for Electrical Reliability Issue No. 6: Prepare a Comprehensive List of All Important Power System Related I/O Points to be Wired to Existing RIO-3 and Transmitted to Ridenour WTP Control Center for Incorporation into SCADA Screens

A comprehensive list of important standby generator, SWGR, and MCC-related signals wired to RIO-3 was prepared and is included in Table 1. This is not a complete list of I/Os connected to RIO-3. It lists only power system related signals that include I/Os from the new protective relays recommended in this TM to enhance power system reliability. The list serves two purposes:

1. Make sure the signals listed are connected to the RIO-3 panel located in the electrical room.

2. Display all signals listed as digital inputs (DIs) and analog inputs (AIs) on the Monterey WRF SCADA screens and at the Ridenour WTP Control Center.

It is assumed that the JEA SCADA team will implement these recommendations for additional power system monitoring at the Monterey WRF and Ridenour WTP Control Center; therefore, an estimated cost is not included with this solution.

Table 1. RIO-3 Power System Related PLC I/O Summary

Activity 1: Assessment – Evaluate Electrical and I&C Systems at the Monterey WRF

Description	DI[a]	DO	AI	AO
Engine Control Panel:				
Start/Stop Engine		2		
Engine AUTO/FAIL	2			
Engine Generator ON	1			
Battery Under Voltage	1			
Battery Charger FAIL	1			
SWGR:				
Utility Breaker: CLOSED/OPEN/AUTO	1	2		
Utility Breaker: TRIP/CLOSE	2			
Generator Breaker: CLOSED/OPEN/AUTO	1	2		
Generator Breaker: TRIP/CLOSE	2			
MCCs 1 ,2, 3 Feeder Breakers OPEN/CLOSED	6			
Utility A/kW/V (Power Meter)			[b]	
Generator A/kW/Volts (Power Meter)			[b]	
New Relay SEL-751 Tripped (Figure DE-1)	1[c]			
Utility Side Lock Out Relay (#86) Tripped	1			
Generator Side Lock Out Relay (#86) Tripped	1			
MCCs 1, 2, 3				
New Phase Unbalance Relay Main Buses	3[d]			
New Motor (horsepower [hp]>= 100) FDR Unbalance Relays	7[e]			
New UPS in Electrical Equipment Room				
UPS Low Battery	1			
UPS FAILURE	1			
Engine Fuel Tank				
Tank Low Level	1			

[a] All power system related DIs should be displayed on the Ridenour WTP Control Room Monterey WRF screens. Recommend a dynamic display screen showing a one-line diagram similar to Figure DE-6 (Attachment 1).

[b] Indicates values transmitted via data link to local SCADA and to Ridenour WTP Control Room screens

[c] This DI changes state when SEL-751 senses any of the following excursions:

(i) Under/Over Voltage

(ii) Over Current (Phase/Ground)

(iii) Under/Over Frequency

(iv) Primary Phase Loss

(v) Arc Flash Detection

Table 1. RIO-3 Power System Related PLC I/O Summary

Activity 1: Assessment – Evaluate Electrical and I&C Systems at the Monterey WRF

Description	DI[a]	DO	AI	AO

(vi) This relay will be programmed to detect single phasing event to meet the requirements specified in Solution for Reliability Issue No. 1. This relay also includes an Ethernet data link that includes the issues noted in (i) through (v) as part of Data Exchange. Details to be worked out during design.

[d] These relays sense phase unbalance or under voltage on MCC buses and generate an alarm contact (DI).

[e] These relays sense phase unbalance or under voltage on motor feeders and trip the motor starters and generate an alarm contact to be wired to RIO-3.

AI = analog input
AO = analog output
DI = digital input
DO = digital output

7. Electrical Reliability Issue No. 7: Path of Incoming JEA 26-kV Overhead Line Appears to be too Close to Tree Limbs or Trees in Some Locations

Photos PE-7A and PE-7B (Attachment 2) show the JEA overhead 26-kV line route along the plant property line. The transmission line appears to run close to the trees and limbs in some locations, which can cause line breakdown from falling trees or limbs hitting the lines during high winds associated with wet-weather events.

Solution for Electrical Reliability Issue No. 7: Request an Inspection of the Transmission Line Route by the JEA T&D Group

If the inspection of the overhead 26-kV line route reveals areas where the tree limbs are in close proximity, the limbs should be trimmed to create acceptable clearance from the line.

8. Electrical Reliability Issue No. 8: Quality and Reliability of the Incoming Power Supplied by the JEA Overhead Line

Jacobs engineers met with JEA's PQ engineers (Mr. Matt Lundeen, Manager Systems Analysis and Mr. John Coarsey, Director, Electric T&D Planning) on November 13, 2018, at the Cedar Bay Water Reclamation Facility (WRF) to discuss the issues related to power quality and overall reliability of power lines feeding the plants. The JEA PQ engineers provided the following information:

- JEA has installed PQ meters at various strategic locations in their system, and will share the data collected from these meters. Subsequently, Jacobs has received data from several PQ meters including the PQ meter at the Monterey WRF. These data were analyzed and a summary of relevant data points is included in the recommended solution.
- JEA T&D group has management programs in place to continuously monitor the transmission lines to assure delivery of reliable clean power during hurricanes and wet-weather events.

Solution for Electrical Reliability Issue No. 8: Analysis of the JEA Supplied PQ Data and Conclusion from the JEA T&D Group Discussion

JEA Supplied PQ Data Analysis for the Monterey WRF: The JEA PQ data were recorded using a Schneider Electric PQ meter for 1 year beginning January 1, 2018 at 12:00 a.m. through January 1, 2019, at 12:00 a.m.. The data collected were for voltage disturbances on each of the three phases, identified as Phases V1, V2, and V3. A total of 104 incidents were recorded, and most of the incidents had multiple disturbances; therefore, a total of 386 disturbances were recorded by the PQ meter that included the following three types of disturbances:

1. Transients of short duration but magnitude higher than the rated voltage.
2. Voltage sags, including both magnitude and duration of each sag.
3. Swells; however, no swells were recorded for the 1-year monitoring duration.

Attachment 5 includes the PQ meter data collected using the Electric Power Research Institute recognized curve, developed jointly by the Computer and Business Equipment Manufacturers Association and Information Technology Industry Council (CBEMA-ITIC) as a basis to determine if the magnitudes and durations of the voltage transients and sags recorded were within the envelope of limits specified by the CBEMA-ITIC curve.

Page 2 of Attachment 5 shows the CBEMA-ITIC curve with the worst disturbance per incident (104 incidents) plotted on the same graph. The CBEMA-ITIC curve is an envelope that consists of two curves. The top curve defines the upper limit of magnitude versus the duration curve, and the bottom curve defines the lower limit of magnitude versus the duration curve. The measured values of the worst-case magnitude versus duration points are plotted on the same graph. The light blue points fall within the envelope formed by the top and bottom curves of the CBEMA-ITIC graph and are considered disturbances within limits. The red points are outside of the envelope of the pair of CBEMA-ITIC curves and are considered excursions of the limits defined by the envelope. The red dots above the top curve are either transients or swells above the upper limits, and those below the lower curve are sags below the lower limits. Table 2 provides a PQ data analysis summary that lists only the excursions of the transients and sags. There were no swells recorded. The transients and sags are described as follows:

- **Transients:** Twelve worst-case transients were recorded in the 1-year period, and two of those transients were above the upper limits of the CBEMA-ITIC curves (Table 2). Phase V1 experienced a transient of 3.385 milliseconds (m-sec) (0.203 cycle) duration and a magnitude of 165 percent of nominal voltage (Record 23). Phase V2 experienced a transient of 3.58 m-sec (0.215 cycle) duration and a magnitude of 171 percent of nominal voltage (Record 102). The cycle or fraction of cycle shown in parenthesis is based on a 60-hertz supply and is shown to provide perspective on the disturbance speed or duration. The magnitudes of both transients seem high and the short duration suggests a steep voltage rise rate that is unfavorable for electronic equipment; however, these magnitudes were recorded only twice in 1 year. Correlation between the occurrence of these transients and the operation of other JEA T&D equipment such as capacitor switching, operation of re-closures, or fuse savers in the JEA transmission systems should be further investigated. These transients may be a result of lightning related surges in the area.
- **Sags:** Ninety sags were recorded on all three phases in a 1-year period, and 30 were sag excursions below the lower part of the CBEMA-ITIC curve (Table 2). The yellow-highlighted records (25, 48, 50, 51, 52, and 69) are disturbances in which the voltage dipped to a value ranging from 5.51 to 18.19 percent of nominal, and the durations ranged from of 124 m-sec (7.44 cycles) to 1,012 m-sec (60.7 cycles). Records 51, 52, and 69 also indicate that these dips were severe enough to cause power interruption. Phase V3 had the most sag excursions followed by Phase V2 and then Phase V1. The severity of the sags and 30 sag excursions within 1 year require further investigation.

Jacobs recommends that JEA attempt to correlate the transients and sags with any related JEA transmission system events, such as capacitor banks switching, re-closure operations, system faults, or lightning related surges. A correlation between the transient and sag occurrences with Monterey WRF failures also should be investigated. As noted previously, Phase V3 exhibited more severe sags than Phases V1 and V2; therefore, Phase V3 should be investigated further.

Table 2. JEA Power Quality Data Analysis Summary: Monterey WRF

Activity 1: Assessment – Evaluate Electrical and I&C Systems at the Monterey WRF

Record Number	Time and Date Stamp	Data Type[a]	Phase V1		Phase V2		Phase V3	
			Duration m-sec (cycles)	Magnitude %	Duration m-sec (cycles)	Magnitude %	Duration m-sec (cycles)	Magnitude %
23	4/20/2018; 12:18 PM	Transient	3.385 (0.203)	165%a				
102	12/21/2018; 11:22 AM	Transient			3.58 (0.215)	171%a		
Total Number of Transients Recorded from January 1, 2018 through January 1, 2019 = 12								

Table 2. JEA Power Quality Data Analysis Summary: Monterey WRF

Activity 1: Assessment – Evaluate Electrical and I&C Systems at the Monterey WRF

Record Number	Time and Date Stamp	Data Type[a]	Phase V1		Phase V2		Phase V3	
			Duration m-sec (cycles)	Magnitude %	Duration m-sec (cycles)	Magnitude %	Duration m-sec (cycles)	Magnitude %
4	1/23/2018; 9:01 AM	Sag			88 (5.28)	21%		
6	2/24/2018; 5:55 AM	Sag					66 (3.96)	67.58%
9	3/7/2018; 2:53 AM	Sag	58 (3.48)	32%				
10	3/12/2018; 8:39 AM	Sag			50 (3)	30.06%		
21	4/15/2018; 3:54 PM	Sag	58 (3.48)	42%				
25	4/29/2018; 7:54 AM	Sag					292 (17.5)	18.19%
35	6/2/2018; 6:25 PM	Sag	157 (9.42)	45.60%				
39	6/7/2018; 7:34 PM	Sag			744 (44.65)	14.77%		
44	6/13/2018; 6:40 PM	Sag			199 (11.94)	24.74%		
47	6/15/2018; 4:45 PM	Sag	236 (14.16)	49%				
48	6/16/2018; 7:31 AM	Sag					394 (23.64)	18%
50	6/20/2018; 10:51 PM	Sag					233 (13.98)	11.28%
51	6/20/2018; 10:53 PM	Sagb					124 (7.44)	6.51%
52	6/20/2018; 11:11 PM	Sagb			125 (7.5)	44.70%	176 (10.56)	5.51%
54	6/22/2018; 2:04 PM	Sag						
55	6/22/2018; 11:04 PM	Sag					867 (52)	38%
56	6/27/2018; 3:01 AM	Sag					742 (44.5)	17.65%
59	6/30/2018; 3:24 PM	Sag					91 (5.46)	46%
69	8/1/2018; 6:21 PM	Sagb			1012 (60.7)	6.72%		
70	8/1/2018; 7:56 PM	Sag			166 (9.96)	46%		
75	8/12/2018; 3:48 PM	Sag					89 (5.34)	51%
81	8/30/2018; 3:30 PM	Sag	52 (3.12)	48.50%				
84	9/19/2018; 5:10 PM	Sag			73 (4.38)	53%		
88	10/19/2018; 9:47 AM	Sag					33 (1.98)	60%
93	11/22/2018; 4:16 PM	Sag					92 (5.52)	67%
94	11/24/2018; 6:54 AM	Sag	57 (3.42)	50%				
95	12/3/2018; 6:33 AM	Sag					124 (7.44)	35%

Table 2. JEA Power Quality Data Analysis Summary: Monterey WRF

Activity 1: Assessment – Evaluate Electrical and I&C Systems at the Monterey WRF

Record Number	Time and Date Stamp	Data Type[a]	Phase V1		Phase V2		Phase V3	
			Duration m-sec (cycles)	Magnitude %	Duration m-sec (cycles)	Magnitude %	Duration m-sec (cycles)	Magnitude %
96	12/3/2018; 9:16 AM	Sag			110 (6.6)	44%		
97	12/11/2018; 8:51 AM	Sag					58 (3.48)	33%
99	12/16/2018; 1:13 AM	Sag			41 (2.46)	42%		

[a] Only excursions of CBEMA envelope listed.

[b] Excursion associated with power interruption.

	Phase V1	Phase V2	Phase V3
Total SAG Excursions	6	10	14

Combined SAG Excursions for all three phases = 30

Total Number of SAGS Recorded for all phases from 1/1/2018 through 1/1/2019 = 90

The JEA T&D group has management programs in place to continuously monitor the transmission lines. The following tasks are implemented at 1- to 2-year intervals:

- Replace poles.
- Take temperature readings at the vulnerable locations using infrared techniques.
- Install TripSavers in strategic locations to minimize fault impacts at nearby customer facilities on the treatment plant operations. Typical operation of a TripSaver is included in Attachment 4.
- Install SCADA controlled switches and fault interrupters at strategic locations in the JEA transmission systems to improve the response time in reacting to system faults.

JEA recommends installation of standby generators at all treatment plant facilities to provide backup power should there be a power loss during major hurricanes and wet-weather events.

9. Electrical Reliability Issue No. 9: Lightning Protection is Not Consistently Installed throughout the Plant Process Areas

Photos PE-8 and PE-9 (Attachment 2) show typical installations of franklin rods for lightning protection; however, this protection is not consistently implemented throughout the WRF.

Solution for Electrical Reliability Issue No. 9: Install Lightning Protection in areas without Lightning Protection.

A Lightning Protection Institute Certified Contractor is recommended to install lightning protection in all WRF areas needing lightning protection. All installations will comply with National Fire Protection Association (NFPA) 780 Lightning Protection Code.

10. Electrical Reliability Issue No. 10: Lack of Arc Flash Hazard Warning Labels on Electrical Equipment

Arc Flash Hazard warning labels are not affixed on most of the electrical equipment at the Monterey WRF, possibly because the NFPA 70E code requiring these labels was not in place when the WRF was originally designed. These labels include the following information:

- Arc flash hazard category level
- Arc energy levels in calories/square centimeters

- Flash protection boundaries
- Type of personal protective equipment required while working near or at the equipment to safeguard against the arc flash hazards

All major electrical equipment should have these labels affixed to comply with the current NFPA 70E code. Data from short circuit and breaker coordination studies are required to perform the arc flash study to determine the data included on the arc flash hazard warning labels.

Solution for Electrical Reliability Issue No. 10: Perform the Short Circuit, Breaker Coordination, and Arc Flash Studies and Print and Affix the Arc Flash Hazard Label on each Piece of Electrical Equipment

JEA retained CE Power Company to perform breaker testing services for all JEA facilities. (JEA Project No. 8004561, Appendix A Technical Specifications, Switchgear Breaker Testing Services for JEA.) As part of this contract, CE Power Company will deliver a Preliminary Electrical Engineering Report (Paragraph 2.8) and a Final Electrical Engineering Report (Paragraph 2.9). These reports will include short circuit, breaker coordination, and arc flash studies for each facility.

These CE Power Company studies will allow placement of arc flash labels and setting adjustments for all protective devices, resulting in a reliable power system at each facility.

3. Instrumentation and Control

3.1 Existing Facility Initial Evaluation

After visiting the facility and interviewing the JEA electrical and instrumentation staff, the Jacobs I&C team determined deficiencies with the current control system that could lead to a future SSO event. The items in this section cover recommended modifications to the Monterey WRF SCADA system to improve reliability of plant operations and allow remote monitoring of critical equipment.

3.2 Reliability Issues and Proposed Solutions

1. I&C Reliability Issue No. 1: SBR Influent Valve Wiring

The primary I&C cause of failure for the SSO event described in Section 1, Background, involved the wiring configuration of the SBR influent valve (see Photo PI-1, Attachment 2). Currently, the electric valve actuator is opened or closed by a single DO from the SBR PLC. When the PLC issues an OPEN command to the valve actuator, the control circuit is energized and the valve begins to open. The CLOSE command breaks the circuit and the valve begins to close. Consequently, the valve fails on the CLOSED position during loss of control power. During the SSO event, a loss of power to the SBR Control Panel also deenergized the control circuit to the SBR valve, but the actuator power was still functional; therefore, the valve actuator acted as if receiving a CLOSE command and shut the valve unexpectedly, allowing accumulation and eventual overflow inside the facility.

Solution for I&C Reliability Issue No. 1: Modify SBR Influent Valve OPEN and CLOSE Commands

The Jacobs team recommends adding an additional DO from the SBR PLC to close the SBR influent valve when energized. With two separate outputs to open and close the valve, the valve will only move when control power is available. Consequently, the valve fails in the last position and will remain at its current position on loss of control power.

Upon inspection of the SBR Control Panel, spare DO points appeared available to repurpose as the SBR influent valve CLOSE command.

Refer to Electrical Reliability Issue No. 4 under Section 2.4, Reliability Issues and Proposed Solutions.

2. I&C Reliability Issue No. 2: Monitoring of Facility Power

During the SSO event, the status of the incoming facility power was largely unknown and could not be monitored locally from the Monterey WRF control room or remotely from the Ridenour WTP Control Center. The inability to monitor the facility power significantly reduces effectiveness in troubleshooting power quality issues and determining the source of power failures.

Solution for I&C Reliability Issue No. 2: Integrate Facility Power Statuses with SCADA System Network

The Jacobs team recommends the following additions to the Monterey WRF:

- On the “Operator Overview” screen (see Photo PI-2, Attachment 2), add a dynamic graphic for the site generator. Include the run status, fuel level, and fault status.
- Create a new screen titled “Facility Power Overview” or similar title, and include a new navigation button on the navigation sidebar. The contents of this screen will include the generator status, phase and power monitoring, and breaker status for all major electrical equipment at the Monterey WRF. For reference, the JEA Mandarin WRF SCADA system includes a screen titled “Power Distribution” that outlines the electrical status of the facility (see Photo PI-3, Attachment 2). At a minimum, all I/O identified in Electrical Reliability Issue No. 6 in this TM will be displayed on this proposed screen.

  Refer to Electrical Reliability Issue No. 6 under Section 2.4, Reliability Issues and Proposed Solutions.

3. I&C Reliability Issue No. 3: Influent Pony Pump Monitoring

The Monterey WRF currently has a diesel-driven pony pump installed at the influent pump station that serves as a backup unit to the three influent pumps. The plant SCADA system determines the run status of the pony pump based on the check valve limit switch on the discharge of the pony pump (see Photo PI-5, Attachment 2). A fault status is also generated on the screens if the check valve position does not change after the pony switch is called to run after a set period of time. However, the plant SCADA system does not interface with the engine control panel or fuel system. With no indication of the fuel level or engine status, the pony pump may unexpectedly fail without adequate response time and cause an SSO event. Furthermore, the lack of status signals complicate troubleshooting work upon pony pump failure.

Solution for I&C Reliability Issue No. 3: Expanded Signal Interface with Pony Pump

The Jacobs team recommends additional signals displayed on the plant SCADA system from the pony pump control panel. At a minimum, the following signals are recommended:

- Pony pump diesel fuel level (analog reading)
- Pony pump diesel fuel low alarm
- Pony pump diesel engine running
- Pony pump diesel engine fault
- Pony pump motor runtime (program a timer based on the run status of the pump to determine engine runtime for maintenance purposes).

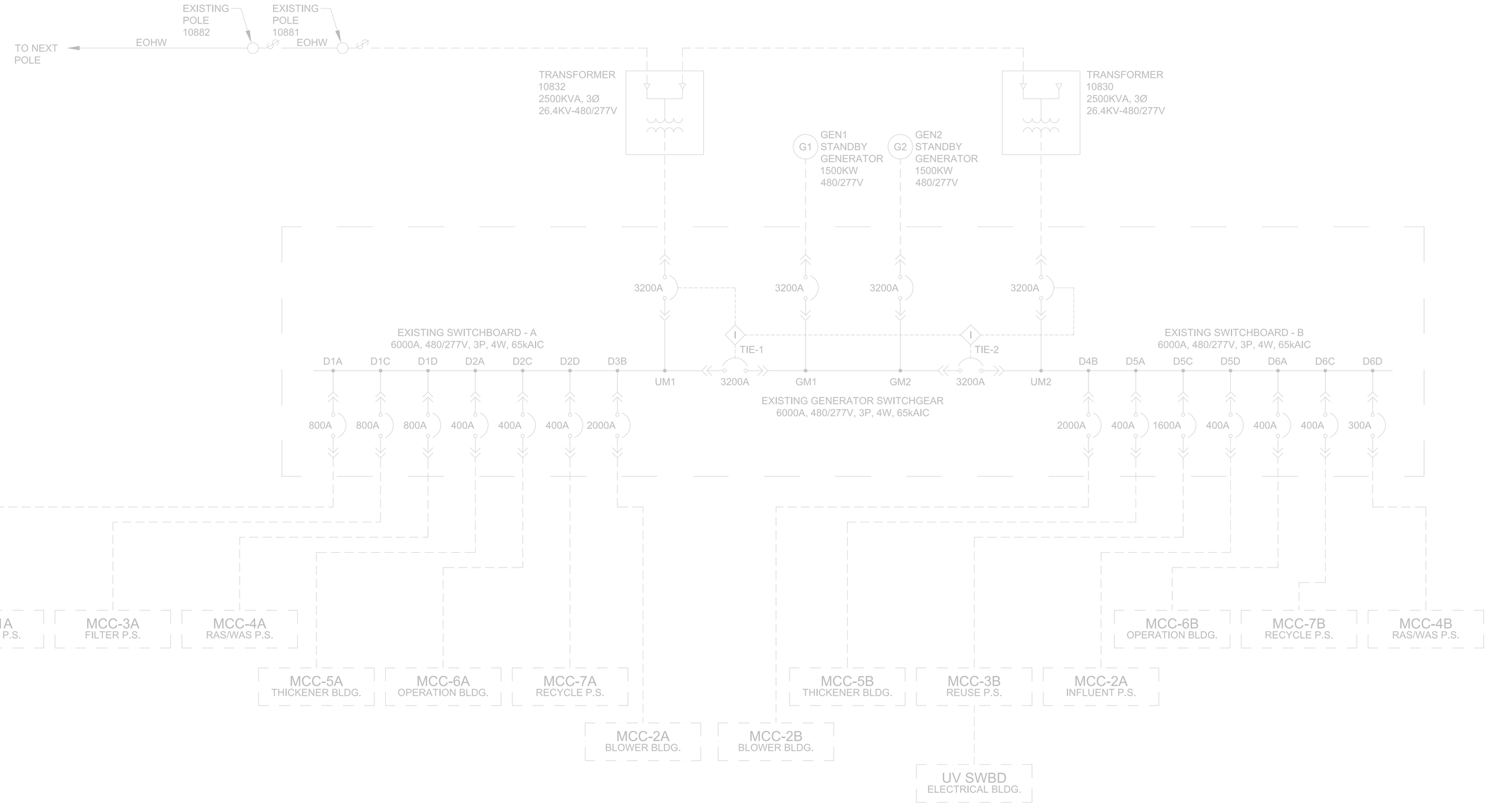
Once the new signals are interfaced with the SCADA system, the existing check valve status would be repurposed as a "check valve fail-to-open" alarm on the graphics screen, and the current fault alarm would be repurposed based on receiving a fault status from the pony pump engine control panel. Display all valves and alarm texts beside or near the pony pump graphic.

4. Reference

Nourouzi, Amir. 2013. Open Phase Conditions in Transformers Analysis and Protection Algorithm. Presented at the Minnesota Power Systems Conference.

Attachment 1
Sketches

FIGURE DE-1



SIMPLIFIED ONE LINE DIAGRAM

Attachment 2
Photo Log

Photo PE-1: 480 V Switch Gear Front View

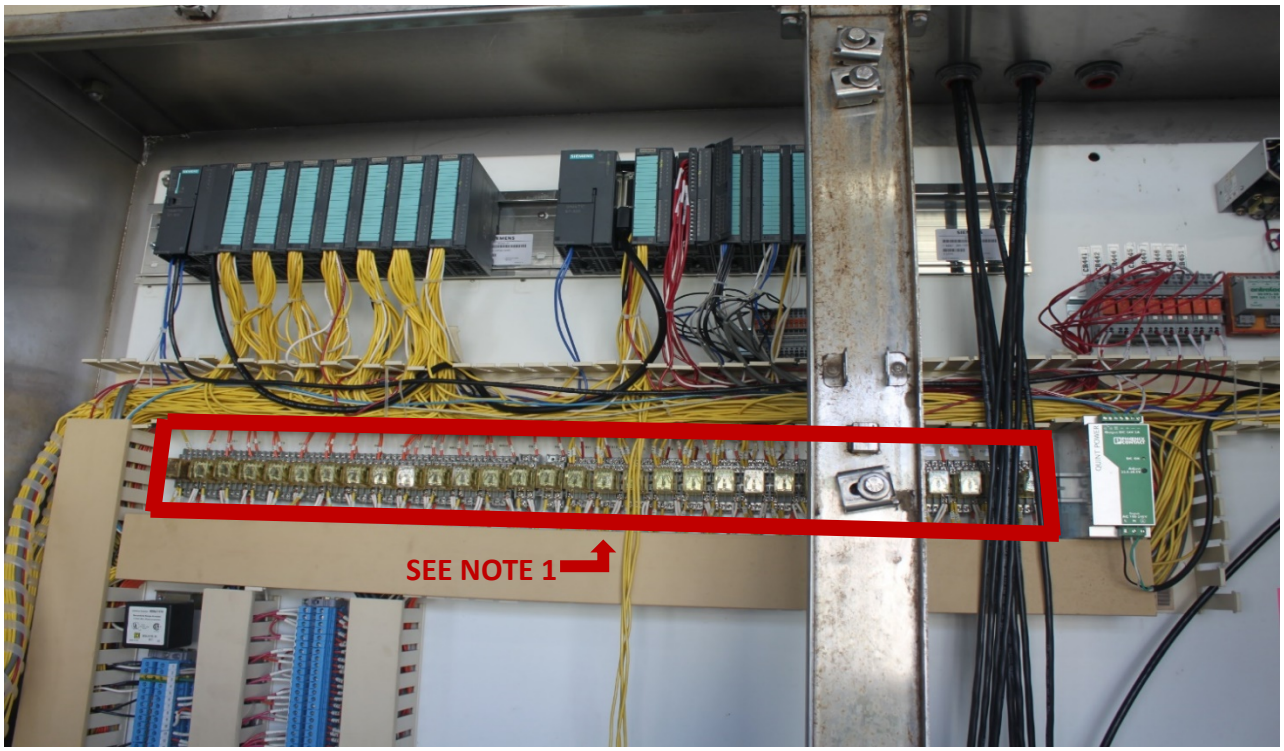
* BOTH UTILITY MAIN & GENERATOR BREAKERS HAVE BEEN REPLACED.
** IMPLEMENT DATALINKS BETWEEN EATON PQ METERS & SCADA

Photo PE-2A: JEA 26 kV Overhead Line Service Drop

Photo PE-2B: JEA Incoming 26 kV Overhead Line

Photo PE-3: SBR Main Control Panel

Photo PE-4: SBR Panel with Doors Open

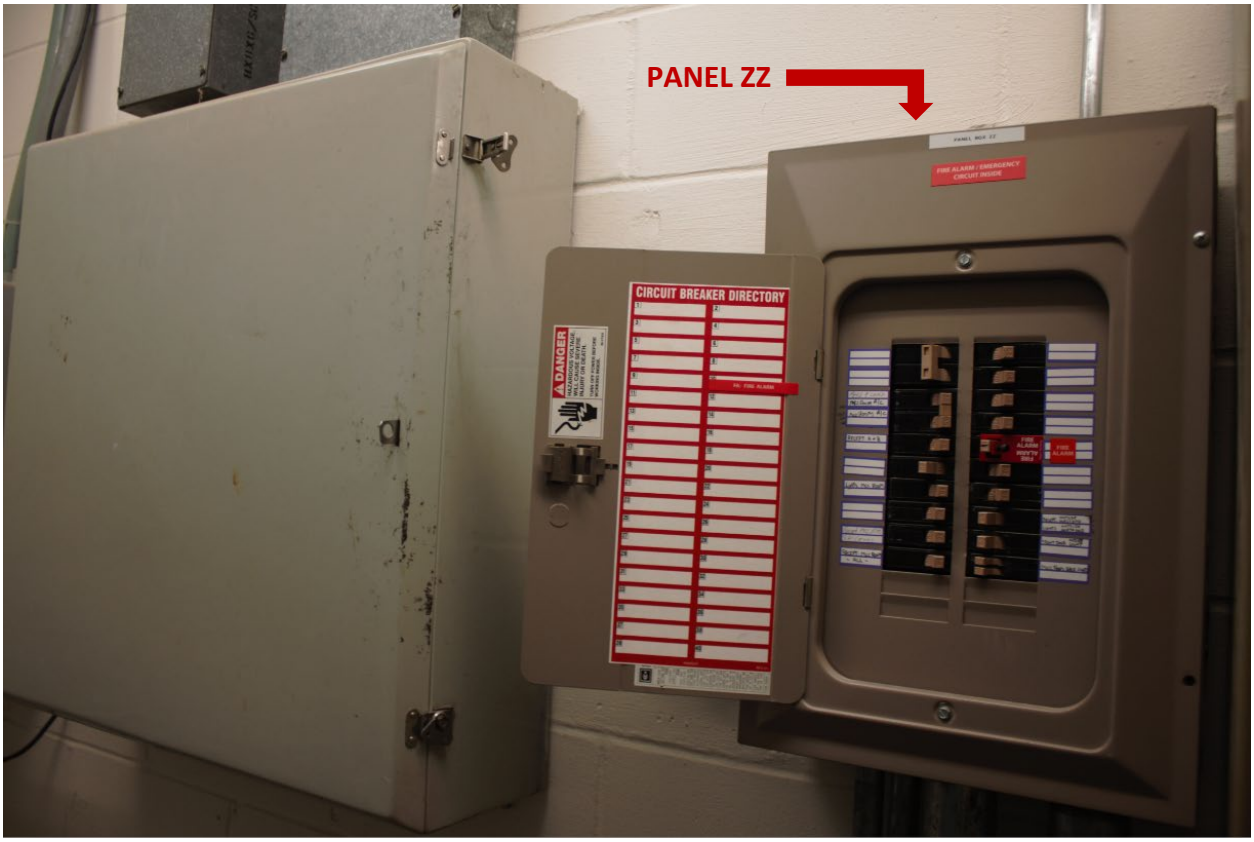


NOTE 1
THESE RELAYS CONTROL ELECTRIC VALVES, NO AND NC CONTACTS OF A SINGLE RELAY CONTROLS OPENING AND CLOSING OF VALVES. THIS CAUSED A "FAIL CLOSE" SCENARIO FOR THE VALVES.

Photo PE-5. Obsolete Motor Control Center

THIS OBSOLETE EXISTING MCC IN THE BACK ELECTRICAL ROOM SHOULD BE REMOVED.

Photo PE-6. ZZ Panel Requires Re-Feeding



THIS PANEL ("ZZ") SHOULD BE RE-FED FROM MCC-1, 2, OR 3 SPARE BREAKERS BEFORE DE-ENERGIZING EXIST MCC.

Photo PE-7A: JEA Incoming Overhead 26 kV Line

NOTE 1
AT CERTAIN PLACES THE OVERHEAD LINE MAY BE TOO CLOSE TO TREES/BRANCHES. THESE TREES MAY REQUIRE TRIMMING.

Photo PE-7B: JEA Incoming Overhead 26 kV Line View from Opposite Direction

Photo PE-8: Lightning Air Terminal (Franklin Rod) and Grounding Down Conductors

NOTE
NOT ALL AREAS HAVE LIGHTNING RODS INSTALLED.
THE PLANT LIGHTNING PROTECTION NEEDS EVALUATION AND UPGRADE.

Photo PE-9: Lightning Air Terminal Installation on a Lightning Pole

Photo PI-1: SBR Influent Valve and Source of the SSO Event

Photo PI-2: Operator Overview Screen

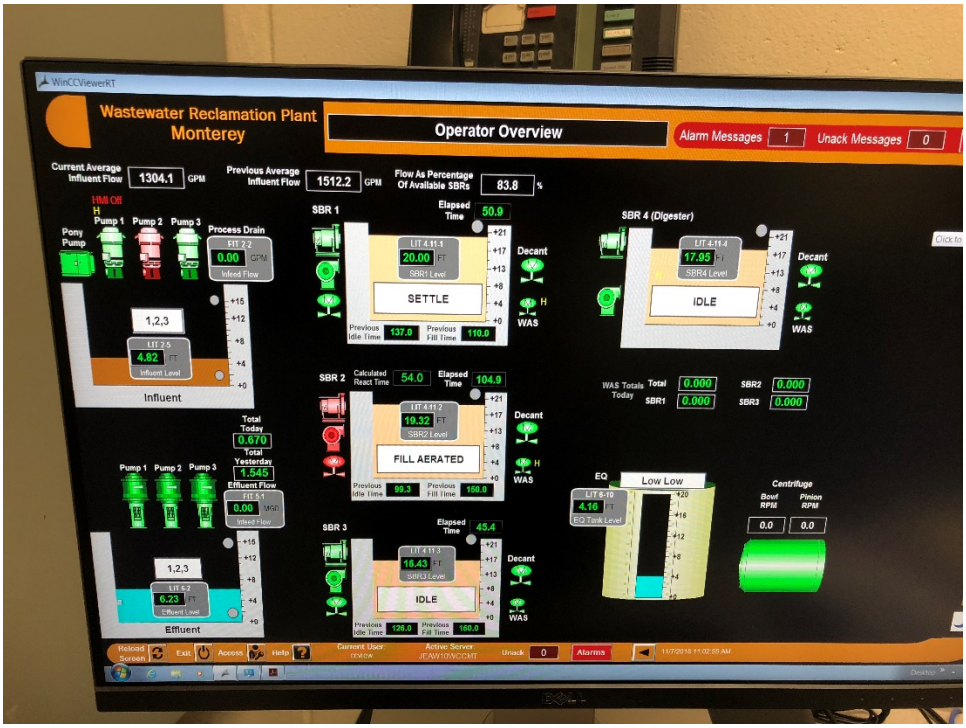


Photo PI-3: Reference Power Distribution Screen Taken at JEA Mandarin WRF

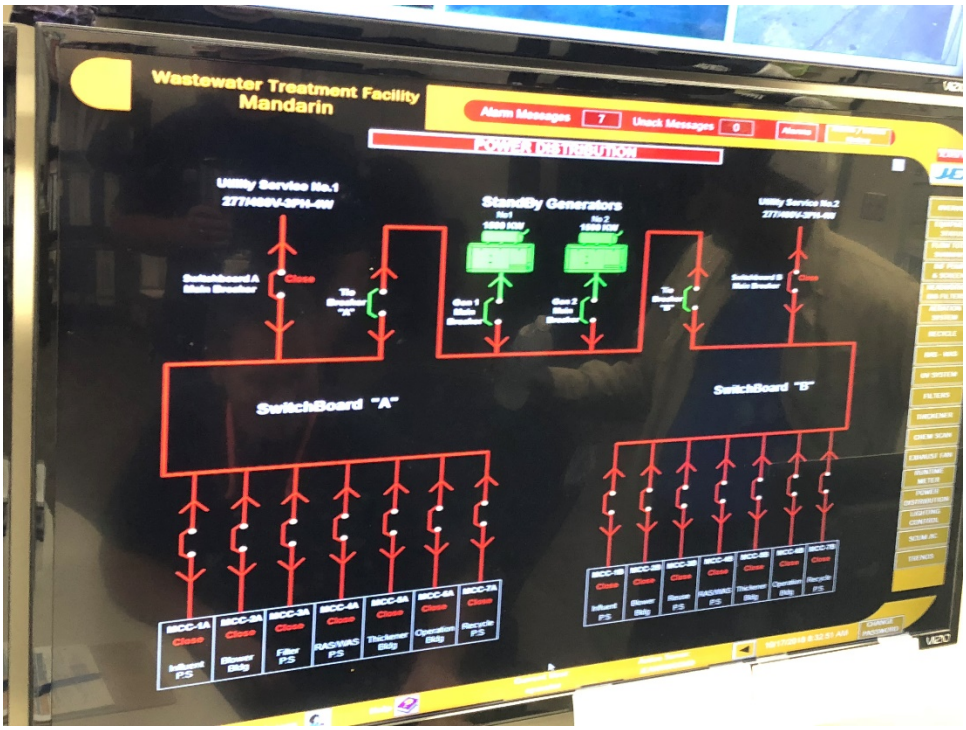
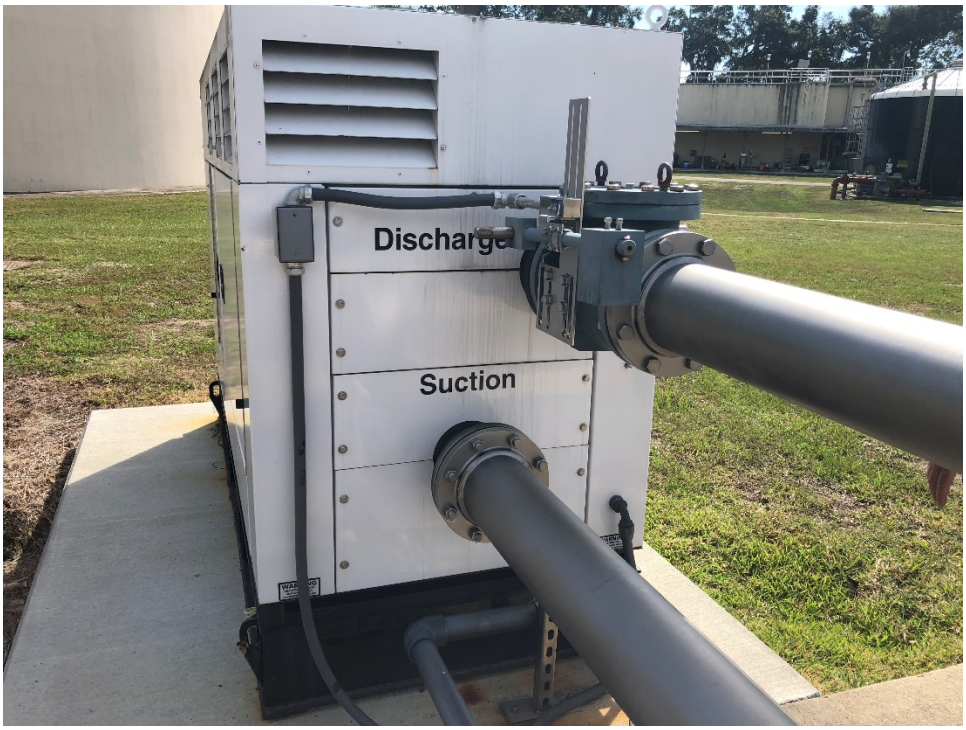


Photo PI-4: Sample Measurement of SBR Pump

Photo PI-5: Pony Pump at Influent Pump Station



Attachment 3
JEA Monterey Plant Power Quality Data and Related Information

Schneider Electric

Power Quality

10/1/2017 12:00:00 AM - 10/1/2018 12:00:00 AM (Server Local)

Data Warnings

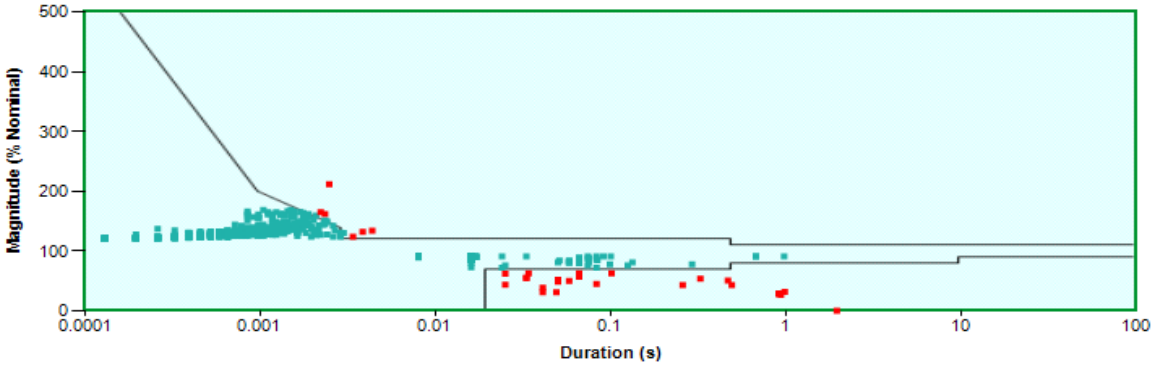
No data warnings.

Sources

HARTLEY.m8600_T1

Number of Incidents	829
Incident Interval	20 seconds
Number of Disturbances	896

Disturbances[1996 CBEMA - ITIC]



Worst Disturbance per Incident

Incident		Meter	Time	Type	Phase	Duration (s)	Magnitude (%)
1	Incident	HARTLEY.m8600_T1	10/1/2017 9:57:53 PM	Sag	V2	0.058	83.00
2	Incident	HARTLEY.m8600_T1	10/2/2017 6:45:31 AM	Transient	V2	0.000130	121.00
3	Incident	HARTLEY.m8600_T1	10/2/2017 9:12:53 AM	Transient	V1	0.001366	150.00
4	Incident	HARTLEY.m8600_T1	10/3/2017 8:03:49 AM	Transient	V2	0.000911	157.00
5	Incident	HARTLEY.m8600_T1	10/3/2017 10:47:26 AM	Transient	V3	0.000976	129.00
6	Incident	HARTLEY.m8600_T1	10/3/2017 9:09:41 PM	Sag	V2	0.016	89.00
7	Incident	HARTLEY.m8600_T1	10/4/2017 9:16:23 AM	Transient	V2	0.000586	133.00
8	Incident	HARTLEY.m8600_T1	10/4/2017 12:30:07 PM	Transient	V1	0.000976	155.00
9	Incident	HARTLEY.m8600_T1	10/5/2017 8:45:57 AM	Sag * Exceeds Tolerance	V2	0.033	55.00
10	Incident	HARTLEY.m8600_T1	10/5/2017 9:32:39 AM	Transient	V3	0.001627	134.00
11	Incident	HARTLEY.m8600_T1	10/5/2017 4:41:44 PM	Sag	V3	0.016	89.00
12	Incident	HARTLEY.m8600_T1	10/6/2017 9:27:33 AM	Transient	V2	0.000976	134.00

13	Incident	HARTLEY.m8600_T1	10/6/2017 11:06:36 AM	Transient	V1	0.001563	166.00
14	Incident	HARTLEY.m8600_T1	10/7/2017 10:22:31 AM	Transient	V1	0.001888	162.00
15	Incident	HARTLEY.m8600_T1	10/7/2017 10:25:51 AM	Transient	V2	0.000846	166.00
16	Incident	HARTLEY.m8600_T1	10/8/2017 9:23:00 AM	Transient	V2	0.000651	134.00
17	Incident	HARTLEY.m8600_T1	10/8/2017 10:26:46 AM	Transient	V2	0.000195	122.00
18	Incident	HARTLEY.m8600_T1	10/9/2017 2:48:22 AM	Sag	V2	0.058	81.00
19	Incident	HARTLEY.m8600_T1	10/9/2017 6:11:33 AM	Transient	V3	0.001432	167.00
20	Incident	HARTLEY.m8600_T1	10/9/2017 9:34:03 AM	Transient	V1	0.000260	122.00
21	Incident	HARTLEY.m8600_T1	10/10/2017 7:27:41 AM	Transient	V2	0.001366	162.00
22	Incident	HARTLEY.m8600_T1	10/10/2017 10:42:53 AM	Transient	V1	0.000976	126.00
23	Incident	HARTLEY.m8600_T1	10/11/2017 10:07:12 AM	Transient	V3	0.000911	130.00
24	Incident	HARTLEY.m8600_T1	10/11/2017 10:09:05 AM	Transient	V1	0.001236	149.00
25	Incident	HARTLEY.m8600_T1	10/11/2017 7:05:49 PM	Sag * Exceeds Tolerance	V2	0.050	52.00
26	Incident	HARTLEY.m8600_T1	10/12/2017 12:31:03 PM	Transient	V3	0.000911	132.00
27	Incident	HARTLEY.m8600_T1	10/12/2017 12:44:36 PM	Transient	V2	0.001757	161.00
28	Incident	HARTLEY.m8600_T1	10/13/2017 7:55:53 AM	Transient	V1	0.001302	137.00
29	Incident	HARTLEY.m8600_T1	10/13/2017 9:47:44 AM	Transient	V3	0.000585	124.00
30	Incident	HARTLEY.m8600_T1	10/13/2017 9:48:22 AM	Transient	V2	0.000716	126.00
31	Incident	HARTLEY.m8600_T1	10/13/2017 2:37:46 PM	Sag	V2	0.016	91.00
32	Incident	HARTLEY.m8600_T1	10/14/2017 12:05:07 PM	Transient	V1	0.001367	141.00
33	Incident	HARTLEY.m8600_T1	10/14/2017 12:06:09 PM	Transient	V2	0.000390	124.00
34	Incident	HARTLEY.m8600_T1	10/14/2017 12:07:29 PM	Transient	V1	0.001041	140.00
35	Incident	HARTLEY.m8600_T1	10/15/2017 2:57:31 AM	Transient	V2	0.000325	123.00
36	Incident	HARTLEY.m8600_T1	10/15/2017 11:45:38 AM	Transient	V2	0.000976	137.00
37	Incident	HARTLEY.m8600_T1	10/15/2017 12:37:08 PM	Transient	V2	0.001432	145.00
38	Incident	HARTLEY.m8600_T1	10/16/2017 12:52:10 AM	Transient	V2	0.000390	123.00
39	Incident	HARTLEY.m8600_T1	10/16/2017 9:36:20 AM	Transient	V2	0.000976	130.00
40	Incident	HARTLEY.m8600_T1	10/16/2017 9:39:20 AM	Transient	V2	0.000130	121.00
41	Incident	HARTLEY.m8600_T1	10/16/2017 10:40:40 AM	Transient	V3	0.001172	151.00
42	Incident	HARTLEY.m8600_T1	10/16/2017 11:44:53 PM	Transient	V2	0.000130	121.00
43	Incident	HARTLEY.m8600_T1	10/17/2017 7:43:43 AM	Sag	V2	0.016	91.00
44	Incident	HARTLEY.m8600_T1	10/18/2017 1:58:05 PM	Transient	V3	0.001562	158.00
45	Incident	HARTLEY.m8600_T1	10/18/2017 3:30:54 PM	Transient	V1	0.000260	122.00
46	Incident	HARTLEY.m8600_T1	10/19/2017 10:06:52 AM	Transient	V2	0.001366	159.00

47	Incident	HARTLEY.m8600_T1	10/19/2017 4:41:53 PM	Transient	V2	0.000260	123.00
48	Incident	HARTLEY.m8600_T1	10/20/2017 8:39:36 AM	Transient	V2	0.000325	123.00
49	Incident	HARTLEY.m8600_T1	10/20/2017 11:31:22 AM	Transient	V1	0.000976	157.00
50	Incident	HARTLEY.m8600_T1	10/21/2017 2:05:39 AM	Transient	V2	0.000390	124.00
51	Incident	HARTLEY.m8600_T1	10/21/2017 7:54:27 AM	Transient	V2	0.001496	159.00
52	Incident	HARTLEY.m8600_T1	10/21/2017 12:13:43 PM	Transient	V3	0.000195	121.00
53	Incident	HARTLEY.m8600_T1	10/22/2017 10:11:29 AM	Transient	V2	0.000455	125.00
54	Incident	HARTLEY.m8600_T1	10/22/2017 10:12:33 AM	Sag	V2	0.016	88.00
55	Incident	HARTLEY.m8600_T1	10/22/2017 1:22:47 PM	Transient	V3	0.000390	128.00
56	Incident	HARTLEY.m8600_T1	10/22/2017 5:53:30 PM	Sag	V2	0.016	90.00
57	Incident	HARTLEY.m8600_T1	10/23/2017 1:23:45 PM	Transient	V3	0.001041	134.00
58	Incident	HARTLEY.m8600_T1	10/23/2017 1:24:48 PM	Sag	V2	0.016	90.00
59	Incident	HARTLEY.m8600_T1	10/23/2017 1:25:39 PM	Transient	V3	0.001496	160.00
60	Incident	HARTLEY.m8600_T1	10/23/2017 1:26:42 PM	Transient	V2	0.000585	125.00
61	Incident	HARTLEY.m8600_T1	10/24/2017 11:24:10 AM	Transient	V2	0.001302	144.00
62	Incident	HARTLEY.m8600_T1	10/24/2017 6:35:13 PM	Transient	V2	0.001172	129.00
63	Incident	HARTLEY.m8600_T1	10/25/2017 10:34:21 AM	Transient	V3	0.002083	159.00
64	Incident	HARTLEY.m8600_T1	10/27/2017 3:16:27 PM	Transient	V2	0.000716	135.00
65	Incident	HARTLEY.m8600_T1	10/27/2017 8:30:52 PM	Transient	V2	0.000195	121.00
66	Incident	HARTLEY.m8600_T1	10/29/2017 8:38:46 AM	Transient	V2	0.000455	124.00
67	Incident	HARTLEY.m8600_T1	11/1/2017 4:31:29 PM	Sag	V2	0.016	80.00
68	Incident	HARTLEY.m8600_T1	11/1/2017 5:57:41 PM	Sag	V3	0.016	73.00
69	Incident	HARTLEY.m8600_T1	11/1/2017 5:58:21 PM	Sag	V1	0.025	76.00
70	Incident	HARTLEY.m8600_T1	11/1/2017 6:00:57 PM	Sag * Exceeds Tolerance	V2	0.083	45.00
71	Incident	HARTLEY.m8600_T1	11/2/2017 1:01:38 PM	Transient	V2	0.000846	129.00
72	Incident	HARTLEY.m8600_T1	11/2/2017 6:04:56 PM	Transient	V2	0.000065	120.00
73	Incident	HARTLEY.m8600_T1	11/3/2017 9:59:54 AM	Transient	V3	0.000976	144.00
74	Incident	HARTLEY.m8600_T1	11/3/2017 12:43:03 PM	Transient	V1	0.000976	142.00
75	Incident	HARTLEY.m8600_T1	11/3/2017 2:48:41 PM	Transient	V2	0.000585	125.00
76	Incident	HARTLEY.m8600_T1	11/4/2017 2:28:01 PM	Transient	V3	0.000390	129.00
77	Incident	HARTLEY.m8600_T1	11/5/2017 9:57:14 AM	Transient	V3	0.000325	126.00
78	Incident	HARTLEY.m8600_T1	11/5/2017 8:40:03 PM	Transient	V2	0.000325	123.00
79	Incident	HARTLEY.m8600_T1	11/6/2017 11:52:05 AM	Transient	V2	0.001562	160.00
80	Incident	HARTLEY.m8600_T1	11/7/2017 10:19:30 AM	Transient	V1	0.000976	126.00

81	Incident	HARTLEY.m8600_T1	11/7/2017 10:20:34 AM	Transient	V2	0.000390	123.00
82	Incident	HARTLEY.m8600_T1	11/7/2017 5:27:31 PM	Sag	V2	0.016	88.00
83	Incident	HARTLEY.m8600_T1	11/7/2017 9:52:00 PM	Sag	V2	0.058	81.00
84	Incident	HARTLEY.m8600_T1	11/8/2017 6:22:47 AM	Transient	V2	0.000781	130.00
85	Incident	HARTLEY.m8600_T1	11/8/2017 11:51:16 AM	Transient	V3	0.000846	159.00
86	Incident	HARTLEY.m8600_T1	11/8/2017 2:17:54 PM	Transient	V2	0.000650	127.00
87	Incident	HARTLEY.m8600_T1	11/9/2017 11:46:17 AM	Transient	V2	0.000781	128.00
88	Incident	HARTLEY.m8600_T1	11/9/2017 10:46:19 PM	Transient	V2	0.000585	126.00
89	Incident	HARTLEY.m8600_T1	11/10/2017 10:41:17 AM	Transient	V2	0.000130	121.00
90	Incident	HARTLEY.m8600_T1	11/13/2017 1:54:52 PM	Transient	V3	0.000520	130.00
91	Incident	HARTLEY.m8600_T1	11/13/2017 1:55:24 PM	Transient	V2	0.000455	124.00
92	Incident	HARTLEY.m8600_T1	11/15/2017 12:40:23 AM	Transient	V2	0.000260	122.00
93	Incident	HARTLEY.m8600_T1	11/18/2017 11:59:00 AM	Transient	V1	0.001496	143.00
94	Incident	HARTLEY.m8600_T1	11/18/2017 8:58:57 PM	Transient	V2	0.000130	121.00
95	Incident	HARTLEY.m8600_T1	11/19/2017 1:53:27 AM	Transient	V2	0.000520	126.00
96	Incident	HARTLEY.m8600_T1	11/22/2017 11:31:24 AM	Transient	V3	0.000650	134.00
97	Incident	HARTLEY.m8600_T1	11/25/2017 5:27:24 AM	Sag	V2	0.074	76.00
98	Incident	HARTLEY.m8600_T1	11/27/2017 1:17:45 PM	Sag	V1	0.066	80.00
99	Incident	HARTLEY.m8600_T1	11/28/2017 1:14:04 PM	Transient	V3	0.001497	169.00
100	Incident	HARTLEY.m8600_T1	12/1/2017 7:20:35 AM	Transient	V1	0.001497	136.00
101	Incident	HARTLEY.m8600_T1	12/1/2017 7:23:28 PM	Transient	V2	0.000130	121.00
102	Incident	HARTLEY.m8600_T1	12/3/2017 5:38:20 PM	Transient	V3	0.001171	140.00
103	Incident	HARTLEY.m8600_T1	12/3/2017 5:42:00 PM	Transient	V2	0.000976	134.00
104	Incident	HARTLEY.m8600_T1	12/4/2017 3:11:31 PM	Transient	V2	0.000781	132.00
105	Incident	HARTLEY.m8600_T1	12/4/2017 5:08:52 PM	Transient	V2	0.000260	123.00
106	Incident	HARTLEY.m8600_T1	12/5/2017 9:34:24 AM	Transient	V2	0.000520	132.00
107	Incident	HARTLEY.m8600_T1	12/6/2017 5:28:25 AM	Transient	V2	0.000130	121.00
108	Incident	HARTLEY.m8600_T1	12/6/2017 10:41:33 AM	Transient	V3	0.000651	133.00
109	Incident	HARTLEY.m8600_T1	12/6/2017 12:35:07 PM	Transient	V2	0.000520	126.00
110	Incident	HARTLEY.m8600_T1	12/6/2017 3:13:04 PM	Sag	V1	0.058	81.00
111	Incident	HARTLEY.m8600_T1	12/6/2017 11:07:38 PM	Transient	V1	0.000716	131.00
112	Incident	HARTLEY.m8600_T1	12/11/2017 6:00:26 AM	Transient	V1	0.000846	131.00
113	Incident	HARTLEY.m8600_T1	12/11/2017 9:07:25 PM	Transient	V2	0.000846	132.00
114	Incident	HARTLEY.m8600_T1	12/12/2017 6:14:44 AM	Transient	V3	0.001302	135.00

115	Incident	HARTLEY.m8600_T1	12/12/2017 5:29:14 PM	Transient	V2	0.000195	121.00
116	Incident	HARTLEY.m8600_T1	12/13/2017 5:13:29 AM	Transient	V1	0.000716	135.00
117	Incident	HARTLEY.m8600_T1	12/15/2017 3:40:30 AM	Sag	V1	0.074	91.00
118	Incident	HARTLEY.m8600_T1	12/17/2017 12:07:12 AM	Transient	V2	0.000260	122.00
119	Incident	HARTLEY.m8600_T1	12/17/2017 7:05:12 AM	Sag * Exceeds Tolerance	V1	0.050	49.00
120	Incident	HARTLEY.m8600_T1	12/18/2017 9:10:29 AM	Transient	V3	0.000911	140.00
121	Incident	HARTLEY.m8600_T1	12/19/2017 1:35:42 AM	Transient	V2	0.000195	121.00
122	Incident	HARTLEY.m8600_T1	12/19/2017 10:03:32 AM	Transient	V3	0.000976	136.00
123	Incident	HARTLEY.m8600_T1	12/19/2017 1:19:36 PM	Sag	V2	0.016	89.00
124	Incident	HARTLEY.m8600_T1	12/19/2017 3:54:08 PM	Sag	V1	0.066	89.00
125	Incident	HARTLEY.m8600_T1	12/20/2017 5:23:22 AM	Transient	V2	0.000325	123.00
126	Incident	HARTLEY.m8600_T1	12/20/2017 9:54:37 AM	Transient	V2	0.001302	161.00
127	Incident	HARTLEY.m8600_T1	12/20/2017 2:46:16 PM	Transient	V3	0.000130	121.00
128	Incident	HARTLEY.m8600_T1	12/21/2017 10:19:45 AM	Transient	V2	0.000325	124.00
129	Incident	HARTLEY.m8600_T1	12/22/2017 7:12:37 AM	Transient	V2	0.000325	124.00
130	Incident	HARTLEY.m8600_T1	12/22/2017 9:20:10 AM	Transient	V3	0.000846	128.00
131	Incident	HARTLEY.m8600_T1	12/22/2017 6:40:04 PM	Sag	V2	0.016	85.00
132	Incident	HARTLEY.m8600_T1	12/29/2017 6:30:43 AM	Transient	V2	0.000716	131.00
133	Incident	HARTLEY.m8600_T1	12/29/2017 3:22:28 PM	Transient	V2	0.000911	131.00
134	Incident	HARTLEY.m8600_T1	12/31/2017 6:06:39 AM	Transient	V2	0.000716	134.00
135	Incident	HARTLEY.m8600_T1	1/1/2018 8:51:44 AM	Transient	V3	0.000390	129.00
136	Incident	HARTLEY.m8600_T1	1/1/2018 5:39:45 PM	Sag	V1	0.125	76.00
137	Incident	HARTLEY.m8600_T1	1/3/2018 5:22:03 AM	Transient	V2	0.000716	129.00
138	Incident	HARTLEY.m8600_T1	1/3/2018 6:53:07 AM	Transient	V1	0.001171	153.00
139	Incident	HARTLEY.m8600_T1	1/3/2018 5:27:04 PM	Transient	V2	0.000390	127.00
140	Incident	HARTLEY.m8600_T1	1/4/2018 10:44:40 AM	Sag	V2	0.016	90.00
141	Incident	HARTLEY.m8600_T1	1/5/2018 3:23:34 AM	Transient	V1	0.000260	122.00
142	Incident	HARTLEY.m8600_T1	1/5/2018 6:02:41 PM	Transient	V1	0.000585	128.00
143	Incident	HARTLEY.m8600_T1	1/6/2018 5:51:48 PM	Transient	V2	0.000585	130.00
144	Incident	HARTLEY.m8600_T1	1/7/2018 1:22:11 AM	Transient	V1	0.001692	165.00
145	Incident	HARTLEY.m8600_T1	1/7/2018 6:04:44 PM	Transient	V1	0.000650	132.00
146	Incident	HARTLEY.m8600_T1	1/8/2018 5:54:05 AM	Transient	V1	0.000390	129.00
147	Incident	HARTLEY.m8600_T1	1/9/2018 6:21:32 AM	Transient	V1	0.000911	127.00
148	Incident	HARTLEY.m8600_T1	1/10/2018 12:47:26 PM	Sag	V2	0.033	91.00

149	Incident	HARTLEY.m8600_T1	1/10/2018 12:48:28 PM	Sag	V2	0.091	91.00
150	Incident	HARTLEY.m8600_T1	1/10/2018 10:28:23 PM	Transient	V2	0.000065	121.00
151	Incident	HARTLEY.m8600_T1	1/11/2018 6:08:09 AM	Transient	V2	0.001106	140.00
152	Incident	HARTLEY.m8600_T1	1/11/2018 9:04:28 PM	Transient	V2	0.000651	129.00
153	Incident	HARTLEY.m8600_T1	1/12/2018 5:18:58 AM	Transient	V2	0.000195	121.00
154	Incident	HARTLEY.m8600_T1	1/14/2018 6:45:49 AM	Transient	V1	0.001367	146.00
155	Incident	HARTLEY.m8600_T1	1/15/2018 3:31:46 AM	Transient	V3	0.000976	135.00
156	Incident	HARTLEY.m8600_T1	1/15/2018 6:24:42 PM	Transient	V2	0.001171	161.00
157	Incident	HARTLEY.m8600_T1	1/15/2018 9:56:58 PM	Transient	V2	0.001301	132.00
158	Incident	HARTLEY.m8600_T1	1/16/2018 2:10:41 AM	Transient	V1	0.000585	129.00
159	Incident	HARTLEY.m8600_T1	1/16/2018 4:08:27 AM	Transient	V3	0.001302	161.00
160	Incident	HARTLEY.m8600_T1	1/17/2018 4:08:11 AM	Transient	V2	0.001562	138.00
161	Incident	HARTLEY.m8600_T1	1/17/2018 5:47:41 PM	Transient	V1	0.000520	131.00
162	Incident	HARTLEY.m8600_T1	1/17/2018 9:04:54 PM	Transient	V1	0.000977	161.00
163	Incident	HARTLEY.m8600_T1	1/20/2018 6:26:17 AM	Transient	V2	0.001236	140.00
164	Incident	HARTLEY.m8600_T1	1/22/2018 5:53:08 AM	Transient	V3	0.000716	144.00
165	Incident	HARTLEY.m8600_T1	1/23/2018 3:03:17 PM	Sag	V2	0.100	91.00
166	Incident	HARTLEY.m8600_T1	1/23/2018 6:12:05 PM	Sag	V2	0.016	87.00
167	Incident	HARTLEY.m8600_T1	1/24/2018 6:30:45 AM	Transient	V3	0.000455	126.00
168	Incident	HARTLEY.m8600_T1	1/24/2018 9:45:41 AM	Sag * Exceeds Tolerance	V2	0.041	39.00
169	Incident	HARTLEY.m8600_T1	1/24/2018 8:30:21 PM	Transient	V2	0.000130	121.00
170	Incident	HARTLEY.m8600_T1	1/25/2018 6:51:52 AM	Transient	V2	0.000586	133.00
171	Incident	HARTLEY.m8600_T1	1/25/2018 9:26:25 PM	Sag	V2	0.016	85.00
172	Incident	HARTLEY.m8600_T1	1/26/2018 5:55:32 PM	Transient	V2	0.001628	143.00
173	Incident	HARTLEY.m8600_T1	1/26/2018 7:45:33 PM	Transient	V2	0.000715	133.00
174	Incident	HARTLEY.m8600_T1	1/27/2018 8:38:00 AM	Transient	V3	0.000065	120.00
175	Incident	HARTLEY.m8600_T1	1/28/2018 8:00:02 AM	Transient	V2	0.000195	122.00
176	Incident	HARTLEY.m8600_T1	1/28/2018 9:59:21 AM	Transient	V1	0.000781	138.00
177	Incident	HARTLEY.m8600_T1	1/30/2018 6:14:54 AM	Transient	V1	0.000260	137.00
178	Incident	HARTLEY.m8600_T1	2/1/2018 5:25:02 AM	Transient	V1	0.000065	120.00
179	Incident	HARTLEY.m8600_T1	2/1/2018 10:13:36 AM	Sag * Exceeds Tolerance	V2	0.258	43.00
180	Incident	HARTLEY.m8600_T1	2/2/2018 5:16:42 AM	Transient	V2	0.000195	122.00
181	Incident	HARTLEY.m8600_T1	2/3/2018 5:09:06 AM	Transient	V2	0.000130	121.00
182	Incident	HARTLEY.m8600_T1	2/3/2018 5:09:28 AM	Transient	V1	0.001758	164.00

183	Incident	HARTLEY.m8600_T1	2/4/2018 1:38:18 PM	Transient	V2	0.001367	143.00
184	Incident	HARTLEY.m8600_T1	2/4/2018 11:15:07 PM	Sag * Exceeds Tolerance	V1	0.033	55.00
185	Incident	HARTLEY.m8600_T1	2/5/2018 7:04:40 AM	Transient	V1	0.001367	138.00
186	Incident	HARTLEY.m8600_T1	2/5/2018 8:26:31 PM	Sag	V2	0.016	85.00
187	Incident	HARTLEY.m8600_T1	2/7/2018 5:50:11 AM	Transient	V2	0.000716	129.00
188	Incident	HARTLEY.m8600_T1	2/7/2018 5:53:04 AM	Transient	V2	0.000390	124.00
189	Incident	HARTLEY.m8600_T1	2/7/2018 8:08:34 AM	Transient	V1	0.000977	130.00
190	Incident	HARTLEY.m8600_T1	2/7/2018 12:32:31 PM	Transient	V1	0.001497	136.00
191	Incident	HARTLEY.m8600_T1	2/8/2018 6:05:34 AM	Transient	V2	0.000130	121.00
192	Incident	HARTLEY.m8600_T1	2/9/2018 6:26:07 AM	Transient	V3	0.001171	161.00
193	Incident	HARTLEY.m8600_T1	2/10/2018 9:43:09 AM	Transient	V2	0.000846	162.00
194	Incident	HARTLEY.m8600_T1	2/10/2018 11:21:15 PM	Sag * Exceeds Tolerance	V2	0.066	57.00
195	Incident	HARTLEY.m8600_T1	2/11/2018 1:44:17 AM	Transient	V2	0.000260	122.00
196	Incident	HARTLEY.m8600_T1	2/11/2018 8:53:41 PM	Transient	V2	0.000585	126.00
197	Incident	HARTLEY.m8600_T1	2/12/2018 12:17:06 AM	Sag	V1	0.066	81.00
198	Incident	HARTLEY.m8600_T1	2/12/2018 8:26:26 AM	Transient	V3	0.001301	142.00
199	Incident	HARTLEY.m8600_T1	2/12/2018 7:48:16 PM	Transient	V2	0.000325	123.00
200	Incident	HARTLEY.m8600_T1	2/13/2018 5:53:56 AM	Transient	V2	0.000260	122.00
201	Incident	HARTLEY.m8600_T1	2/14/2018 7:53:45 AM	Transient	V3	0.001041	135.00
202	Incident	HARTLEY.m8600_T1	2/14/2018 7:54:45 AM	Transient	V2	0.000455	125.00
203	Incident	HARTLEY.m8600_T1	2/14/2018 5:42:30 PM	Transient	V2	0.000520	126.00
204	Incident	HARTLEY.m8600_T1	2/15/2018 6:22:34 AM	Transient	V3	0.000846	138.00
205	Incident	HARTLEY.m8600_T1	2/15/2018 9:34:09 AM	Transient	V2	0.000065	127.00
206	Incident	HARTLEY.m8600_T1	2/15/2018 10:26:07 PM	Transient	V2	0.000130	121.00
207	Incident	HARTLEY.m8600_T1	2/15/2018 10:54:18 PM	Transient	V2	0.000325	123.00
208	Incident	HARTLEY.m8600_T1	2/16/2018 11:37:51 AM	Transient	V3	0.000520	132.00
209	Incident	HARTLEY.m8600_T1	2/16/2018 1:06:42 PM	Transient	V3	0.000846	140.00
210	Incident	HARTLEY.m8600_T1	2/16/2018 3:29:27 PM	Transient	V3	0.000455	130.00
211	Incident	HARTLEY.m8600_T1	2/17/2018 11:06:51 AM	Transient	V3	0.001041	139.00
212	Incident	HARTLEY.m8600_T1	2/17/2018 8:58:53 PM	Transient	V2	0.000260	123.00
213	Incident	HARTLEY.m8600_T1	2/18/2018 11:23:45 AM	Transient	V1	0.001041	169.00
214	Incident	HARTLEY.m8600_T1	2/18/2018 1:31:35 PM	Transient	V1	0.000911	129.00
215	Incident	HARTLEY.m8600_T1	2/18/2018 1:40:13 PM	Transient	V1	0.002670	135.00
216	Incident	HARTLEY.m8600_T1	2/18/2018 7:57:03 PM	Transient	V1	0.000325	135.00

217	Incident	HARTLEY.m8600_T1	2/19/2018 1:38:54 PM	Transient	V2	0.000651	135.00
218	Incident	HARTLEY.m8600_T1	2/20/2018 9:12:44 AM	Transient	V2	0.000130	123.00
219	Incident	HARTLEY.m8600_T1	2/20/2018 1:19:49 PM	Transient	V3	0.000390	128.00
220	Incident	HARTLEY.m8600_T1	2/21/2018 11:31:37 AM	Transient	V3	0.000846	128.00
221	Incident	HARTLEY.m8600_T1	2/21/2018 10:23:53 PM	Sag	V2	0.016	88.00
222	Incident	HARTLEY.m8600_T1	2/22/2018 12:36:16 PM	Sag	V2	0.016	89.00
223	Incident	HARTLEY.m8600_T1	2/22/2018 1:47:34 PM	Sag	V2	0.016	90.00
224	Incident	HARTLEY.m8600_T1	2/22/2018 3:02:06 PM	Transient	V2	0.000911	131.00
225	Incident	HARTLEY.m8600_T1	2/22/2018 3:03:09 PM	Transient	V1	0.000325	122.00
226	Incident	HARTLEY.m8600_T1	2/22/2018 7:03:50 PM	Transient	V2	0.000781	130.00
227	Incident	HARTLEY.m8600_T1	2/23/2018 8:13:06 AM	Transient	V2	0.000260	122.00
228	Incident	HARTLEY.m8600_T1	2/23/2018 11:57:54 AM	Transient	V2	0.000390	124.00
229	Incident	HARTLEY.m8600_T1	2/23/2018 1:13:08 PM	Transient	V3	0.000585	129.00
230	Incident	HARTLEY.m8600_T1	2/24/2018 5:54:46 AM	Sag	V2	0.058	84.00
231	Incident	HARTLEY.m8600_T1	2/24/2018 1:46:48 PM	Transient	V1	0.001757	150.00
232	Incident	HARTLEY.m8600_T1	2/24/2018 7:09:40 PM	Sag	V2	0.016	89.00
233	Incident	HARTLEY.m8600_T1	2/25/2018 8:08:01 AM	Transient	V2	0.000195	122.00
234	Incident	HARTLEY.m8600_T1	2/25/2018 11:28:42 AM	Sag	V2	0.016	88.00
235	Incident	HARTLEY.m8600_T1	2/25/2018 11:53:18 AM	Transient	V3	0.001106	131.00
236	Incident	HARTLEY.m8600_T1	2/26/2018 6:09:35 AM	Sag	V1	0.016	91.00
237	Incident	HARTLEY.m8600_T1	2/26/2018 9:40:47 AM	Transient	V2	0.000911	134.00
238	Incident	HARTLEY.m8600_T1	2/26/2018 9:49:59 AM	Transient	V2	0.000455	126.00
239	Incident	HARTLEY.m8600_T1	2/26/2018 12:16:30 PM	Transient	V2	0.000065	121.00
240	Incident	HARTLEY.m8600_T1	2/26/2018 12:58:23 PM	Transient	V2	0.001106	161.00
241	Incident	HARTLEY.m8600_T1	2/26/2018 6:46:09 PM	Sag	V2	0.016	87.00
242	Incident	HARTLEY.m8600_T1	2/26/2018 7:01:06 PM	Sag	V2	0.016	86.00
243	Incident	HARTLEY.m8600_T1	2/26/2018 7:29:52 PM	Sag	V2	0.016	87.00
244	Incident	HARTLEY.m8600_T1	2/28/2018 4:02:45 AM	Transient	V2	0.000260	123.00
245	Incident	HARTLEY.m8600_T1	3/1/2018 11:23:18 AM	Transient	V3	0.000390	130.00
246	Incident	HARTLEY.m8600_T1	3/1/2018 11:24:22 AM	Sag	V2	0.016	89.00
247	Incident	HARTLEY.m8600_T1	3/2/2018 2:17:37 PM	Transient	V2	0.001627	141.00
248	Incident	HARTLEY.m8600_T1	3/2/2018 5:53:27 PM	Transient	V1	0.000325	123.00
249	Incident	HARTLEY.m8600_T1	3/5/2018 7:01:34 AM	Transient	V2	0.001302	162.00
250	Incident	HARTLEY.m8600_T1	3/6/2018 8:18:43 AM	Sag	V2	0.016	85.00

251	Incident	HARTLEY.m8600_T1	3/6/2018 4:32:42 PM	Transient	V2	0.001172	134.00
252	Incident	HARTLEY.m8600_T1	3/6/2018 5:24:58 PM	Sag	V2	0.024	91.00
253	Incident	HARTLEY.m8600_T1	3/6/2018 10:28:28 PM	Transient	V2	0.000390	124.00
254	Incident	HARTLEY.m8600_T1	3/10/2018 7:03:27 PM	Transient	V1	0.001236	165.00
255	Incident	HARTLEY.m8600_T1	3/11/2018 11:54:44 AM	Sag	V2	0.017	91.00
256	Incident	HARTLEY.m8600_T1	3/11/2018 3:11:56 PM	Transient	V3	0.001301	142.00
257	Incident	HARTLEY.m8600_T1	3/11/2018 3:12:58 PM	Transient	V2	0.000130	121.00
258	Incident	HARTLEY.m8600_T1	3/12/2018 1:12:05 AM	Transient	V2	0.000065	121.00
259	Incident	HARTLEY.m8600_T1	3/17/2018 4:40:23 PM	Transient	V3	0.001302	147.00
260	Incident	HARTLEY.m8600_T1	3/18/2018 9:45:28 AM	Transient	V1	0.002279	144.00
261	Incident	HARTLEY.m8600_T1	3/19/2018 8:55:08 AM	Transient	V1	0.001432	134.00
262	Incident	HARTLEY.m8600_T1	3/19/2018 2:05:55 PM	Transient	V2	0.000390	124.00
263	Incident	HARTLEY.m8600_T1	3/20/2018 8:17:16 AM	Transient	V2	0.000781	132.00
264	Incident	HARTLEY.m8600_T1	3/21/2018 2:02:44 PM	Sag	V2	0.075	86.00
265	Incident	HARTLEY.m8600_T1	3/21/2018 2:26:31 PM	Sag	V2	0.074	87.00
266	Incident	HARTLEY.m8600_T1	3/21/2018 2:53:42 PM	Sag	V2	0.084	85.00
267	Incident	HARTLEY.m8600_T1	3/21/2018 2:58:17 PM	Sag	V2	0.075	88.00
268	Incident	HARTLEY.m8600_T1	3/21/2018 2:59:15 PM	Sag	V2	0.066	88.00
269	Incident	HARTLEY.m8600_T1	3/24/2018 8:02:57 AM	Transient	V2	0.000325	123.00
270	Incident	HARTLEY.m8600_T1	3/25/2018 8:35:27 AM	Transient	V2	0.000651	129.00
271	Incident	HARTLEY.m8600_T1	3/28/2018 6:10:46 AM	Transient	V2	0.000325	124.00
272	Incident	HARTLEY.m8600_T1	3/28/2018 4:21:44 PM	Transient	V1	0.001756	150.00
273	Incident	HARTLEY.m8600_T1	3/29/2018 12:30:25 PM	Transient	V1	0.001693	145.00
274	Incident	HARTLEY.m8600_T1	3/29/2018 7:28:02 PM	Transient	V2	0.000130	121.00
275	Incident	HARTLEY.m8600_T1	3/30/2018 10:36:55 AM	Transient	V1	0.000911	130.00
276	Incident	HARTLEY.m8600_T1	3/30/2018 11:11:42 AM	Transient	V1	0.000390	122.00
277	Incident	HARTLEY.m8600_T1	3/30/2018 11:59:08 AM	Sag	V2	0.016	88.00
278	Incident	HARTLEY.m8600_T1	3/30/2018 3:53:46 PM	Transient	V2	0.000585	127.00
279	Incident	HARTLEY.m8600_T1	4/1/2018 9:12:37 PM	Transient	V2	0.000195	121.00
280	Incident	HARTLEY.m8600_T1	4/2/2018 5:40:06 PM	Transient	V3	0.000390	129.00
281	Incident	HARTLEY.m8600_T1	4/2/2018 6:00:34 PM	Sag	V2	0.016	90.00
282	Incident	HARTLEY.m8600_T1	4/2/2018 6:41:49 PM	Sag	V2	0.016	88.00
283	Incident	HARTLEY.m8600_T1	4/2/2018 8:43:59 PM	Sag	V2	0.016	89.00
284	Incident	HARTLEY.m8600_T1	4/3/2018 10:18:25 AM	Transient	V2	0.000585	127.00

285	Incident	HARTLEY.m8600_T1	4/3/2018 12:19:58 PM	Transient	V3	0.000195	123.00
286	Incident	HARTLEY.m8600_T1	4/3/2018 12:24:03 PM	Transient	V1	0.000065	122.00
287	Incident	HARTLEY.m8600_T1	4/3/2018 4:18:37 PM	Sag	V2	0.016	90.00
288	Incident	HARTLEY.m8600_T1	4/4/2018 6:01:12 AM	Transient	V2	0.000260	122.00
289	Incident	HARTLEY.m8600_T1	4/5/2018 11:29:33 PM	Transient	V2	0.000195	122.00
290	Incident	HARTLEY.m8600_T1	4/6/2018 1:57:19 AM	Transient	V2	0.000390	124.00
291	Incident	HARTLEY.m8600_T1	4/6/2018 8:19:42 AM	Transient	V2	0.000325	124.00
292	Incident	HARTLEY.m8600_T1	4/6/2018 3:37:55 PM	Sag	V1	0.075	81.00
293	Incident	HARTLEY.m8600_T1	4/6/2018 10:58:28 PM	Sag	V2	0.016	89.00
294	Incident	HARTLEY.m8600_T1	4/7/2018 3:13:41 AM	Sag	V1	0.675	91.00
295	Incident	HARTLEY.m8600_T1	4/7/2018 3:14:30 AM	Sag	V1	0.675	91.00
296	Incident	HARTLEY.m8600_T1	4/7/2018 9:19:51 AM	Transient	V2	0.000325	124.00
297	Incident	HARTLEY.m8600_T1	4/7/2018 12:28:26 PM	Transient	V2	0.000325	123.00
298	Incident	HARTLEY.m8600_T1	4/9/2018 4:31:32 PM	Transient	V2	0.000650	126.00
299	Incident	HARTLEY.m8600_T1	4/9/2018 5:42:36 PM	Transient	V2	0.000846	130.00
300	Incident	HARTLEY.m8600_T1	4/10/2018 7:33:21 AM	Transient	V2	0.000325	123.00
301	Incident	HARTLEY.m8600_T1	4/12/2018 11:46:56 AM	Sag * Exceeds Tolerance	V3	0.325	54.00
302	Incident	HARTLEY.m8600_T1	4/12/2018 7:12:07 PM	Transient	V2	0.000455	125.00
303	Incident	HARTLEY.m8600_T1	4/13/2018 12:58:07 PM	Transient	V2	0.002409	149.00
304	Incident	HARTLEY.m8600_T1	4/14/2018 12:07:48 PM	Transient	V2	0.002018	153.00
305	Incident	HARTLEY.m8600_T1	4/14/2018 2:09:23 PM	Sag	V2	0.016	89.00
306	Incident	HARTLEY.m8600_T1	4/14/2018 10:28:04 PM	Sag	V2	0.016	88.00
307	Incident	HARTLEY.m8600_T1	4/15/2018 4:30:39 PM	Transient	V2	0.000585	126.00
308	Incident	HARTLEY.m8600_T1	4/18/2018 2:06:28 PM	Transient	V3	0.000455	133.00
309	Incident	HARTLEY.m8600_T1	4/18/2018 2:07:15 PM	Sag	V2	0.016	89.00
310	Incident	HARTLEY.m8600_T1	4/18/2018 7:12:01 PM	Sag	V2	0.016	89.00
311	Incident	HARTLEY.m8600_T1	4/19/2018 10:03:18 AM	Transient	V2	0.001171	145.00
312	Incident	HARTLEY.m8600_T1	4/19/2018 11:08:02 AM	Transient	V2	0.001041	130.00
313	Incident	HARTLEY.m8600_T1	4/19/2018 1:58:29 PM	Transient	V2	0.000455	124.00
314	Incident	HARTLEY.m8600_T1	4/22/2018 12:24:05 AM	Transient	V2	0.000130	121.00
315	Incident	HARTLEY.m8600_T1	4/23/2018 1:14:35 PM	Transient	V1	0.001367	132.00
316	Incident	HARTLEY.m8600_T1	4/23/2018 7:11:51 PM	Transient	V2	0.000325	123.00
317	Incident	HARTLEY.m8600_T1	4/24/2018 5:42:45 AM	Transient	V2	0.000455	125.00
318	Incident	HARTLEY.m8600_T1	4/24/2018 2:24:31 PM	Transient	V2	0.001888	142.00

319	Incident	HARTLEY.m8600_T1	4/24/2018 2:25:31 PM	Transient	V1	0.000065	121.00
320	Incident	HARTLEY.m8600_T1	4/24/2018 8:56:10 PM	Transient	V2	0.000195	122.00
321	Incident	HARTLEY.m8600_T1	4/25/2018 2:49:43 AM	Transient	V2	0.000325	123.00
322	Incident	HARTLEY.m8600_T1	4/25/2018 1:27:07 PM	Transient	V3	0.000586	129.00
323	Incident	HARTLEY.m8600_T1	4/25/2018 7:45:17 PM	Transient	V2	0.000325	123.00
324	Incident	HARTLEY.m8600_T1	4/26/2018 6:21:49 AM	Transient	V2	0.001822	148.00
325	Incident	HARTLEY.m8600_T1	4/26/2018 11:33:04 AM	Transient	V2	0.001041	126.00
326	Incident	HARTLEY.m8600_T1	4/26/2018 1:24:43 PM	Transient	V2	0.000781	127.00
327	Incident	HARTLEY.m8600_T1	4/26/2018 11:57:46 PM	Transient	V2	0.002863	131.00
328	Incident	HARTLEY.m8600_T1	4/27/2018 10:54:20 AM	Transient	V3	0.000976	130.00
329	Incident	HARTLEY.m8600_T1	4/27/2018 5:41:40 PM	Sag	V2	0.016	89.00
330	Incident	HARTLEY.m8600_T1	4/28/2018 12:32:54 PM	Transient	V1	0.002018	136.00
331	Incident	HARTLEY.m8600_T1	4/28/2018 6:48:40 PM	Sag * Exceeds Tolerance	V2	0.041	31.00
332	Incident	HARTLEY.m8600_T1	4/28/2018 9:15:27 PM	Sag	V2	0.016	89.00
333	Incident	HARTLEY.m8600_T1	4/29/2018 10:18:41 AM	Transient	V2	0.001366	143.00
334	Incident	HARTLEY.m8600_T1	4/29/2018 10:19:41 AM	Transient	V2	0.000650	129.00
335	Incident	HARTLEY.m8600_T1	4/30/2018 2:18:26 PM	Transient	V1	0.001236	141.00
336	Incident	HARTLEY.m8600_T1	5/1/2018 1:57:10 PM	Transient	V1	0.000976	129.00
337	Incident	HARTLEY.m8600_T1	5/1/2018 1:58:05 PM	Sag	V2	0.016	90.00
338	Incident	HARTLEY.m8600_T1	5/1/2018 6:36:12 PM	Sag	V2	0.016	91.00
339	Incident	HARTLEY.m8600_T1	5/1/2018 9:22:42 PM	Transient	V2	0.001041	130.00
340	Incident	HARTLEY.m8600_T1	5/1/2018 10:06:52 PM	Transient	V2	0.000651	128.00
341	Incident	HARTLEY.m8600_T1	5/1/2018 11:44:34 PM	Transient	V2	0.000390	123.00
342	Incident	HARTLEY.m8600_T1	5/2/2018 8:47:36 AM	Transient	V3	0.000390	125.00
343	Incident	HARTLEY.m8600_T1	5/3/2018 9:07:56 AM	Transient	V1	0.000781	139.00
344	Incident	HARTLEY.m8600_T1	5/3/2018 9:09:03 AM	Sag	V2	0.016	88.00
345	Incident	HARTLEY.m8600_T1	5/3/2018 11:04:30 PM	Sag	V2	0.016	88.00
346	Incident	HARTLEY.m8600_T1	5/4/2018 9:07:27 AM	Transient	V1	0.000715	128.00
347	Incident	HARTLEY.m8600_T1	5/4/2018 9:08:30 AM	Sag	V2	0.016	89.00
348	Incident	HARTLEY.m8600_T1	5/4/2018 7:18:11 PM	Sag * Exceeds Tolerance	V3	0.025	44.00
349	Incident	HARTLEY.m8600_T1	5/5/2018 1:08:07 AM	Transient	V2	0.000325	123.00
350	Incident	HARTLEY.m8600_T1	5/5/2018 9:13:56 AM	Transient	V3	0.000520	130.00
351	Incident	HARTLEY.m8600_T1	5/5/2018 9:14:37 AM	Transient	V2	0.000455	125.00
352	Incident	HARTLEY.m8600_T1	5/5/2018 4:40:32 PM	Sag	V2	0.016	90.00

353	Incident	HARTLEY.m8600_T1	5/6/2018 8:04:05 AM	Transient	V2	0.000260	122.00
354	Incident	HARTLEY.m8600_T1	5/6/2018 10:41:59 AM	Transient	V3	0.000651	133.00
355	Incident	HARTLEY.m8600_T1	5/6/2018 10:43:01 AM	Transient	V2	0.001367	131.00
356	Incident	HARTLEY.m8600_T1	5/6/2018 12:50:49 PM	Sag	V2	0.016	89.00
357	Incident	HARTLEY.m8600_T1	5/6/2018 12:56:06 PM	Sag	V2	0.016	89.00
358	Incident	HARTLEY.m8600_T1	5/6/2018 6:54:05 PM	Sag	V2	0.016	89.00
359	Incident	HARTLEY.m8600_T1	5/6/2018 9:44:08 PM	Sag	V3	0.075	88.00
360	Incident	HARTLEY.m8600_T1	5/7/2018 9:43:16 AM	Transient	V3	0.001562	146.00
361	Incident	HARTLEY.m8600_T1	5/8/2018 10:07:29 AM	Transient	V3	0.001106	137.00
362	Incident	HARTLEY.m8600_T1	5/8/2018 10:07:54 AM	Sag	V2	0.008	91.00
363	Incident	HARTLEY.m8600_T1	5/8/2018 12:46:12 PM	Sag	V2	0.016	89.00
364	Incident	HARTLEY.m8600_T1	5/9/2018 12:04:07 AM	Transient	V2	0.000520	125.00
365	Incident	HARTLEY.m8600_T1	5/9/2018 11:05:54 AM	Transient	V3	0.000846	138.00
366	Incident	HARTLEY.m8600_T1	5/9/2018 1:43:22 PM	Transient	V3	0.001431	148.00
367	Incident	HARTLEY.m8600_T1	5/10/2018 10:45:38 AM	Transient	V1	0.001041	126.00
368	Incident	HARTLEY.m8600_T1	5/10/2018 10:46:39 AM	Transient	V2	0.000195	122.00
369	Incident	HARTLEY.m8600_T1	5/10/2018 2:17:21 PM	Transient	V1	0.001106	165.00
370	Incident	HARTLEY.m8600_T1	5/11/2018 9:43:10 AM	Transient	V1	0.000846	125.00
371	Incident	HARTLEY.m8600_T1	5/11/2018 10:37:16 AM	Transient	V1	0.001041	144.00
372	Incident	HARTLEY.m8600_T1	5/11/2018 10:38:19 AM	Transient	V2	0.000260	122.00
373	Incident	HARTLEY.m8600_T1	5/11/2018 9:33:34 PM	Transient	V2	0.000455	124.00
374	Incident	HARTLEY.m8600_T1	5/12/2018 8:38:53 AM	Sag	V2	0.083	91.00
375	Incident	HARTLEY.m8600_T1	5/12/2018 12:42:34 PM	Transient	V1	0.000976	156.00
376	Incident	HARTLEY.m8600_T1	5/13/2018 8:15:50 AM	Transient	V2	0.000195	121.00
377	Incident	HARTLEY.m8600_T1	5/13/2018 3:11:44 PM	Transient	V2	0.000455	128.00
378	Incident	HARTLEY.m8600_T1	5/13/2018 3:16:38 PM	Transient	V1	0.000390	123.00
379	Incident	HARTLEY.m8600_T1	5/13/2018 3:17:38 PM	Transient * Exceeds	V2	0.003385	124.00
380	Incident	HARTLEY.m8600_T1	5/13/2018 10:32:55 PM	Sag	V2	0.016	90.00
381	Incident	HARTLEY.m8600_T1	5/14/2018 12:25:32 AM	Transient	V2	0.000976	128.00
382	Incident	HARTLEY.m8600_T1	5/15/2018 1:39:32 PM	Transient	V1	0.000976	129.00
383	Incident	HARTLEY.m8600_T1	5/15/2018 8:22:27 PM	Sag	V2	0.016	88.00
384	Incident	HARTLEY.m8600_T1	5/15/2018 9:29:23 PM	Transient	V2	0.001041	131.00
385	Incident	HARTLEY.m8600_T1	5/15/2018 10:09:30 PM	Transient	V2	0.001041	131.00
386	Incident	HARTLEY.m8600_T1	5/16/2018 12:10:33 AM	Transient	V3	0.000130	121.00

387	Incident	HARTLEY.m8600_T1	5/16/2018 5:49:56 AM	Transient	V3	0.000325	123.00
388	Incident	HARTLEY.m8600_T1	5/16/2018 7:37:51 AM	Sag * Exceeds Tolerance	V2	0.066	63.00
389	Incident	HARTLEY.m8600_T1	5/16/2018 12:02:47 PM	Transient	V3	0.000586	131.00
390	Incident	HARTLEY.m8600_T1	5/16/2018 4:55:16 PM	Sag * Exceeds Tolerance	V1	0.025	62.00
391	Incident	HARTLEY.m8600_T1	5/16/2018 9:57:57 PM	Sag	V2	0.016	89.00
392	Incident	HARTLEY.m8600_T1	5/17/2018 1:31:50 PM	Sag	V2	0.016	91.00
393	Incident	HARTLEY.m8600_T1	5/17/2018 7:14:52 PM	Sag	V2	0.016	88.00
394	Incident	HARTLEY.m8600_T1	5/18/2018 12:37:54 AM	Transient	V2	0.000260	122.00
395	Incident	HARTLEY.m8600_T1	5/18/2018 10:21:49 AM	Sag	V2	0.016	89.00
396	Incident	HARTLEY.m8600_T1	5/18/2018 11:51:48 AM	Transient	V1	0.002148	133.00
397	Incident	HARTLEY.m8600_T1	5/18/2018 1:58:16 PM	Transient	V2	0.000780	125.00
398	Incident	HARTLEY.m8600_T1	5/18/2018 11:01:34 PM	Transient	V2	0.000521	124.00
399	Incident	HARTLEY.m8600_T1	5/19/2018 9:19:29 AM	Transient	V2	0.000065	120.00
400	Incident	HARTLEY.m8600_T1	5/19/2018 10:56:09 AM	Transient	V1	0.000520	130.00
401	Incident	HARTLEY.m8600_T1	5/19/2018 5:06:55 PM	Transient	V2	0.000716	126.00
402	Incident	HARTLEY.m8600_T1	5/20/2018 1:34:00 AM	Transient	V2	0.002408	128.00
403	Incident	HARTLEY.m8600_T1	5/20/2018 8:38:36 AM	Sag * Exceeds Tolerance	V1	0.034	63.00
404	Incident	HARTLEY.m8600_T1	5/21/2018 6:02:36 AM	Transient	V2	0.000325	124.00
405	Incident	HARTLEY.m8600_T1	5/21/2018 11:19:17 AM	Transient	V1	0.000651	129.00
406	Incident	HARTLEY.m8600_T1	5/21/2018 6:11:58 PM	Transient	V2	0.000651	126.00
407	Incident	HARTLEY.m8600_T1	5/22/2018 2:46:37 AM	Transient	V2	0.000716	126.00
408	Incident	HARTLEY.m8600_T1	5/22/2018 5:47:00 AM	Transient	V2	0.000260	123.00
409	Incident	HARTLEY.m8600_T1	5/22/2018 11:34:28 AM	Transient	V3	0.001171	134.00
410	Incident	HARTLEY.m8600_T1	5/22/2018 11:35:28 AM	Sag	V2	0.008	91.00
411	Incident	HARTLEY.m8600_T1	5/22/2018 11:42:36 AM	Transient	V2	0.000325	123.00
412	***Incident***	***HARTLEY.m8600_T1***	***5/22/2018 2:28:59 PM***	***Interruption * Exceeds***	***V1***	***1.951***	***0.00***
413	Incident	HARTLEY.m8600_T1	5/25/2018 1:04:37 AM	Sag	V1	0.016	91.00
414	Incident	HARTLEY.m8600_T1	5/25/2018 1:42:42 AM	Sag	V3	0.008	89.00
415	Incident	HARTLEY.m8600_T1	5/25/2018 8:30:18 AM	Transient	V1	0.001432	134.00
416	Incident	HARTLEY.m8600_T1	5/25/2018 10:37:07 PM	Transient	V2	0.000520	124.00
417	Incident	HARTLEY.m8600_T1	5/26/2018 7:15:13 AM	Transient	V2	0.000325	123.00
418	Incident	HARTLEY.m8600_T1	5/26/2018 9:39:32 AM	Transient	V3	0.001561	141.00
419	Incident	HARTLEY.m8600_T1	5/26/2018 1:43:01 PM	Sag	V2	0.016	90.00
420	Incident	HARTLEY.m8600_T1	5/26/2018 4:58:59 PM	Sag	V2	0.016	91.00

421	Incident	HARTLEY.m8600_T1	5/26/2018 11:04:09 PM	Sag	V3	0.008	91.00
422	Incident	HARTLEY.m8600_T1	5/28/2018 11:05:58 AM	Transient	V1	0.000846	151.00
423	Incident	HARTLEY.m8600_T1	5/28/2018 7:39:53 PM	Sag * Exceeds Tolerance	V3	0.049	31.00
424	Incident	HARTLEY.m8600_T1	5/29/2018 10:31:45 AM	Transient	V1	0.001302	131.00
425	Incident	HARTLEY.m8600_T1	5/29/2018 4:30:02 PM	Transient	V1	0.000065	120.00
426	Incident	HARTLEY.m8600_T1	5/29/2018 6:43:31 PM	Sag	V2	0.016	90.00
427	Incident	HARTLEY.m8600_T1	5/31/2018 6:02:47 AM	Transient	V2	0.000521	125.00
428	Incident	HARTLEY.m8600_T1	5/31/2018 9:19:32 AM	Transient	V2	0.000195	122.00
429	Incident	HARTLEY.m8600_T1	5/31/2018 11:05:08 AM	Transient	V2	0.001497	156.00
430	Incident	HARTLEY.m8600_T1	5/31/2018 11:06:17 AM	Sag	V2	0.016	89.00
431	Incident	HARTLEY.m8600_T1	5/31/2018 12:51:27 PM	Sag	V2	0.016	90.00
432	Incident	HARTLEY.m8600_T1	6/1/2018 6:08:23 AM	Transient	V2	0.001301	131.00
433	Incident	HARTLEY.m8600_T1	6/1/2018 12:17:24 PM	Transient	V1	0.001106	130.00
434	Incident	HARTLEY.m8600_T1	6/1/2018 4:51:28 PM	Sag	V1	0.008	91.00
435	Incident	HARTLEY.m8600_T1	6/2/2018 9:20:01 AM	Transient	V2	0.002149	128.00
436	Incident	HARTLEY.m8600_T1	6/2/2018 11:44:16 AM	Transient	V2	0.000586	125.00
437	Incident	HARTLEY.m8600_T1	6/2/2018 6:17:58 PM	Sag * Exceeds Tolerance	V2	0.936	27.00
438	Incident	HARTLEY.m8600_T1	6/2/2018 6:58:54 PM	Sag	V2	0.016	90.00
439	Incident	HARTLEY.m8600_T1	6/3/2018 7:59:25 AM	Sag	V2	0.016	89.00
440	Incident	HARTLEY.m8600_T1	6/3/2018 12:17:14 PM	Transient	V2	0.000325	126.00
441	Incident	HARTLEY.m8600_T1	6/3/2018 12:17:35 PM	Transient	V3	0.000325	126.00
442	Incident	HARTLEY.m8600_T1	6/3/2018 5:34:19 PM	Transient	V2	0.002865	125.00
443	Incident	HARTLEY.m8600_T1	6/4/2018 2:25:13 AM	Transient	V2	0.000260	122.00
444	Incident	HARTLEY.m8600_T1	6/4/2018 6:21:04 AM	Transient	V2	0.002994	130.00
445	Incident	HARTLEY.m8600_T1	6/4/2018 8:10:50 AM	Transient	V2	0.000520	132.00
446	Incident	HARTLEY.m8600_T1	6/4/2018 8:11:53 AM	Sag	V2	0.016	90.00
447	Incident	HARTLEY.m8600_T1	6/4/2018 10:17:28 AM	Transient	V2	0.000585	128.00
448	Incident	HARTLEY.m8600_T1	6/4/2018 6:00:58 PM	Sag	V2	0.016	91.00
449	Incident	HARTLEY.m8600_T1	6/4/2018 10:13:22 PM	Sag	V2	0.016	90.00
450	Incident	HARTLEY.m8600_T1	6/4/2018 11:29:02 PM	Sag	V2	0.016	91.00
451	Incident	HARTLEY.m8600_T1	6/5/2018 2:00:41 AM	Transient	V2	0.002082	127.00
452	Incident	HARTLEY.m8600_T1	6/5/2018 10:48:47 AM	Transient	V2	0.000390	129.00
453	Incident	HARTLEY.m8600_T1	6/6/2018 3:53:32 PM	Sag	V2	0.016	90.00
454	Incident	HARTLEY.m8600_T1	6/6/2018 10:52:24 PM	Sag	V2	0.016	91.00

455	Incident	HARTLEY.m8600_T1	6/7/2018 5:47:28 AM	Transient	V2	0.000325	123.00
456	Incident	HARTLEY.m8600_T1	6/7/2018 9:49:17 AM	Transient	V2	0.000651	128.00
457	Incident	HARTLEY.m8600_T1	6/7/2018 10:59:55 AM	Sag	V1	0.050	81.00
458	Incident	HARTLEY.m8600_T1	6/7/2018 4:47:25 PM	Transient	V3	0.000455	126.00
459	Incident	HARTLEY.m8600_T1	6/7/2018 7:06:46 PM	Sag	V2	0.016	90.00
460	Incident	HARTLEY.m8600_T1	6/7/2018 9:02:38 PM	Sag	V2	0.016	89.00
461	Incident	HARTLEY.m8600_T1	6/8/2018 2:18:57 PM	Transient	V3	0.000260	124.00
462	Incident	HARTLEY.m8600_T1	6/8/2018 6:37:18 PM	Transient	V2	0.000260	122.00
463	Incident	HARTLEY.m8600_T1	6/8/2018 10:50:17 PM	Transient	V2	0.000130	121.00
464	Incident	HARTLEY.m8600_T1	6/8/2018 11:33:08 PM	Sag	V2	0.017	91.00
465	Incident	HARTLEY.m8600_T1	6/9/2018 10:41:18 AM	Transient	V2	0.001627	134.00
466	Incident	HARTLEY.m8600_T1	6/10/2018 1:29:04 PM	Transient	V2	0.001562	137.00
467	Incident	HARTLEY.m8600_T1	6/10/2018 6:51:39 PM	Sag	V2	0.016	90.00
468	Incident	HARTLEY.m8600_T1	6/11/2018 9:50:52 AM	Transient	V3	0.000325	123.00
469	Incident	HARTLEY.m8600_T1	6/11/2018 9:51:55 AM	Transient * Exceeds	V2	0.003841	132.00
470	Incident	HARTLEY.m8600_T1	6/11/2018 11:57:24 AM	Transient	V1	0.000260	122.00
471	Incident	HARTLEY.m8600_T1	6/11/2018 3:47:56 PM	Sag * Exceeds Tolerance	V1	0.101	63.00
472	Incident	HARTLEY.m8600_T1	6/11/2018 11:35:45 PM	Transient	V2	0.000195	122.00
473	Incident	HARTLEY.m8600_T1	6/12/2018 5:48:33 AM	Transient	V2	0.001627	130.00
474	Incident	HARTLEY.m8600_T1	6/12/2018 10:53:21 AM	Transient	V3	0.000520	128.00
475	Incident	HARTLEY.m8600_T1	6/12/2018 9:55:22 PM	Sag	V2	0.016	89.00
476	Incident	HARTLEY.m8600_T1	6/13/2018 11:50:51 AM	Sag	V2	0.016	91.00
477	Incident	HARTLEY.m8600_T1	6/13/2018 11:57:23 AM	Transient	V2	0.000585	133.00
478	Incident	HARTLEY.m8600_T1	6/13/2018 8:13:22 PM	Sag	V2	0.016	89.00
479	Incident	HARTLEY.m8600_T1	6/14/2018 8:38:32 AM	Sag	V2	0.016	89.00
480	Incident	HARTLEY.m8600_T1	6/14/2018 12:37:17 PM	Sag	V2	0.016	91.00
481	Incident	HARTLEY.m8600_T1	6/14/2018 12:46:24 PM	Transient	V2	0.000455	126.00
482	Incident	HARTLEY.m8600_T1	6/14/2018 4:53:58 PM	Transient	V2	0.000455	123.00
483	Incident	HARTLEY.m8600_T1	6/14/2018 8:12:50 PM	Transient * Exceeds	V1	0.002473	212.00
484	Incident	HARTLEY.m8600_T1	6/15/2018 12:08:38 AM	Transient	V2	0.000130	121.00
485	Incident	HARTLEY.m8600_T1	6/15/2018 10:02:01 AM	Transient	V3	0.000455	125.00
486	Incident	HARTLEY.m8600_T1	6/15/2018 10:15:56 AM	Transient	V2	0.000065	120.00
487	Incident	HARTLEY.m8600_T1	6/15/2018 4:44:43 PM	Sag	V2	0.016	91.00
488	Incident	HARTLEY.m8600_T1	6/15/2018 9:16:03 PM	Sag	V2	0.016	90.00

489	Incident	HARTLEY.m8600_T1	6/16/2018 10:38:35 AM	Transient	V3	0.001106	131.00
490	Incident	HARTLEY.m8600_T1	6/16/2018 4:32:57 PM	Sag	V2	0.016	90.00
491	Incident	HARTLEY.m8600_T1	6/16/2018 5:04:40 PM	Sag	V2	0.016	90.00
492	Incident	HARTLEY.m8600_T1	6/17/2018 12:02:42 PM	Transient	V3	0.000585	127.00
493	Incident	HARTLEY.m8600_T1	6/17/2018 9:10:51 PM	Sag	V2	0.016	90.00
494	Incident	HARTLEY.m8600_T1	6/18/2018 9:01:50 AM	Transient	V1	0.002148	135.00
495	Incident	HARTLEY.m8600_T1	6/18/2018 6:08:53 PM	Sag	V2	0.016	89.00
496	Incident	HARTLEY.m8600_T1	6/18/2018 10:40:48 PM	Sag	V2	0.016	91.00
497	Incident	HARTLEY.m8600_T1	6/18/2018 11:22:53 PM	Transient	V2	0.000976	126.00
498	Incident	HARTLEY.m8600_T1	6/19/2018 12:08:13 AM	Sag	V2	0.016	91.00
499	Incident	HARTLEY.m8600_T1	6/19/2018 12:53:29 AM	Transient	V2	0.000455	124.00
500	Incident	HARTLEY.m8600_T1	6/19/2018 8:15:56 AM	Transient * Exceeds	V1	0.002343	162.00
501	Incident	HARTLEY.m8600_T1	6/19/2018 4:07:06 PM	Sag	V2	0.016	90.00
502	Incident	HARTLEY.m8600_T1	6/19/2018 4:25:15 PM	Sag	V1	0.016	91.00
503	Incident	HARTLEY.m8600_T1	6/19/2018 4:42:16 PM	Sag	V1	0.016	90.00
504	Incident	HARTLEY.m8600_T1	6/19/2018 5:40:30 PM	Sag	V2	0.016	90.00
505	Incident	HARTLEY.m8600_T1	6/20/2018 10:31:00 AM	Transient	V3	0.000520	129.00
506	Incident	HARTLEY.m8600_T1	6/21/2018 10:31:29 AM	Transient	V3	0.001431	138.00
507	Incident	HARTLEY.m8600_T1	6/21/2018 10:33:58 AM	Sag	V2	0.016	89.00
508	Incident	HARTLEY.m8600_T1	6/22/2018 11:19:57 AM	Transient	V2	0.001822	145.00
509	Incident	HARTLEY.m8600_T1	6/22/2018 9:57:56 PM	Sag	V1	0.016	90.00
510	Incident	HARTLEY.m8600_T1	6/22/2018 10:51:53 PM	Sag	V2	0.016	91.00
511	Incident	HARTLEY.m8600_T1	6/23/2018 9:54:53 AM	Transient	V2	0.000781	132.00
512	Incident	HARTLEY.m8600_T1	6/23/2018 10:04:27 AM	Transient	V2	0.000325	123.00
513	Incident	HARTLEY.m8600_T1	6/23/2018 11:01:25 PM	Transient	V2	0.000390	123.00
514	Incident	HARTLEY.m8600_T1	6/24/2018 8:40:04 AM	Transient	V2	0.001887	157.00
515	Incident	HARTLEY.m8600_T1	6/24/2018 10:39:43 AM	Transient	V2	0.000390	123.00
516	Incident	HARTLEY.m8600_T1	6/25/2018 11:28:32 AM	Transient	V2	0.001172	134.00
517	Incident	HARTLEY.m8600_T1	6/25/2018 11:29:39 AM	Sag	V2	0.016	91.00
518	Incident	HARTLEY.m8600_T1	6/26/2018 10:38:52 AM	Transient	V2	0.001692	139.00
519	Incident	HARTLEY.m8600_T1	6/26/2018 10:39:54 AM	Sag	V2	0.016	91.00
520	Incident	HARTLEY.m8600_T1	6/26/2018 12:05:50 PM	Transient	V3	0.000650	125.00
521	Incident	HARTLEY.m8600_T1	6/26/2018 3:02:33 PM	Sag * Exceeds Tolerance	V2	0.467	51.00
522	Incident	HARTLEY.m8600_T1	6/26/2018 3:03:09 PM	Sag * Exceeds Tolerance	V2	0.491	43.00

523	Incident	HARTLEY.m8600_T1	6/26/2018 4:02:29 PM	Transient	V3	0.000195	122.00
524	Incident	HARTLEY.m8600_T1	6/27/2018 10:01:53 AM	Transient	V2	0.000781	134.00
525	Incident	HARTLEY.m8600_T1	6/27/2018 6:03:13 PM	Sag	V2	0.016	91.00
526	Incident	HARTLEY.m8600_T1	6/28/2018 11:41:26 AM	Transient	V2	0.001301	135.00
527	Incident	HARTLEY.m8600_T1	6/28/2018 11:42:29 AM	Sag	V2	0.016	90.00
528	Incident	HARTLEY.m8600_T1	6/28/2018 1:32:30 PM	Transient	V2	0.000260	123.00
529	Incident	HARTLEY.m8600_T1	6/28/2018 4:32:47 PM	Sag	V2	0.016	90.00
530	Incident	HARTLEY.m8600_T1	6/29/2018 9:52:55 AM	Transient	V1	0.001431	136.00
531	Incident	HARTLEY.m8600_T1	6/29/2018 11:34:11 PM	Transient	V2	0.000260	122.00
532	Incident	HARTLEY.m8600_T1	6/30/2018 12:39:51 AM	Transient	V2	0.000390	124.00
533	Incident	HARTLEY.m8600_T1	6/30/2018 3:00:02 AM	Transient	V2	0.000130	120.00
534	Incident	HARTLEY.m8600_T1	6/30/2018 11:32:43 AM	Transient	V3	0.001302	139.00
535	Incident	HARTLEY.m8600_T1	7/1/2018 3:03:40 AM	Transient	V2	0.000911	129.00
536	Incident	HARTLEY.m8600_T1	7/1/2018 10:34:36 AM	Transient	V3	0.000520	127.00
537	Incident	HARTLEY.m8600_T1	7/1/2018 10:35:37 AM	Sag	V2	0.016	90.00
538	Incident	HARTLEY.m8600_T1	7/1/2018 10:36:40 AM	Sag	V2	0.016	89.00
539	Incident	HARTLEY.m8600_T1	7/1/2018 12:33:46 PM	Transient	V2	0.000976	129.00
540	Incident	HARTLEY.m8600_T1	7/1/2018 7:03:31 PM	Sag	V2	0.016	90.00
541	Incident	HARTLEY.m8600_T1	7/1/2018 10:24:54 PM	Sag	V2	0.016	90.00
542	Incident	HARTLEY.m8600_T1	7/2/2018 10:30:55 AM	Transient	V2	0.001953	138.00
543	Incident	HARTLEY.m8600_T1	7/2/2018 10:31:48 AM	Transient	V2	0.000976	127.00
544	Incident	HARTLEY.m8600_T1	7/3/2018 9:22:12 AM	Transient	V1	0.001237	127.00
545	Incident	HARTLEY.m8600_T1	7/3/2018 1:21:28 PM	Transient	V2	0.000325	122.00
546	Incident	HARTLEY.m8600_T1	7/3/2018 2:14:23 PM	Transient	V3	0.000130	121.00
547	Incident	HARTLEY.m8600_T1	7/4/2018 9:51:35 AM	Transient	V2	0.001236	141.00
548	Incident	HARTLEY.m8600_T1	7/4/2018 12:01:52 PM	Transient	V3	0.000976	125.00
549	Incident	HARTLEY.m8600_T1	7/4/2018 1:52:49 PM	Transient	V2	0.000976	129.00
550	Incident	HARTLEY.m8600_T1	7/4/2018 1:53:49 PM	Transient	V2	0.002865	125.00
551	Incident	HARTLEY.m8600_T1	7/5/2018 12:13:24 AM	Transient	V2	0.000260	122.00
552	Incident	HARTLEY.m8600_T1	7/5/2018 6:46:00 AM	Sag	V1	0.976	91.00
553	Incident	HARTLEY.m8600_T1	7/5/2018 9:04:00 AM	Transient * Exceeds	V1	0.002214	165.00
554	Incident	HARTLEY.m8600_T1	7/5/2018 9:05:01 AM	Transient	V2	0.001172	127.00
555	Incident	HARTLEY.m8600_T1	7/5/2018 1:57:38 PM	Transient	V2	0.000585	130.00
556	Incident	HARTLEY.m8600_T1	7/5/2018 6:29:07 PM	Sag	V2	0.016	90.00

557	Incident	HARTLEY.m8600_T1	7/6/2018 8:45:05 AM	Transient	V1	0.002343	151.00
558	Incident	HARTLEY.m8600_T1	7/6/2018 8:52:50 PM	Transient	V2	0.000520	125.00
559	Incident	HARTLEY.m8600_T1	7/8/2018 11:25:33 AM	Transient	V3	0.000390	131.00
560	Incident	HARTLEY.m8600_T1	7/9/2018 12:14:05 PM	Transient	V1	0.002148	143.00
561	Incident	HARTLEY.m8600_T1	7/9/2018 7:37:17 PM	Sag	V2	0.016	90.00
562	Incident	HARTLEY.m8600_T1	7/10/2018 9:30:23 AM	Transient	V3	0.000325	123.00
563	Incident	HARTLEY.m8600_T1	7/10/2018 1:39:09 PM	Transient	V1	0.000977	128.00
564	Incident	HARTLEY.m8600_T1	7/10/2018 1:40:00 PM	Sag	V2	0.016	91.00
565	Incident	HARTLEY.m8600_T1	7/10/2018 7:22:48 PM	Sag	V2	0.016	90.00
566	Incident	HARTLEY.m8600_T1	7/11/2018 9:09:43 AM	Transient	V2	0.000846	133.00
567	Incident	HARTLEY.m8600_T1	7/11/2018 9:10:36 AM	Transient	V3	0.000455	123.00
568	Incident	HARTLEY.m8600_T1	7/11/2018 11:32:48 AM	Transient	V1	0.000651	123.00
569	Incident	HARTLEY.m8600_T1	7/11/2018 1:28:48 PM	Transient	V1	0.001953	142.00
570	Incident	HARTLEY.m8600_T1	7/11/2018 9:40:50 PM	Sag	V2	0.016	90.00
571	Incident	HARTLEY.m8600_T1	7/12/2018 12:57:41 AM	Transient	V3	0.000130	121.00
572	Incident	HARTLEY.m8600_T1	7/12/2018 10:59:42 AM	Sag	V2	0.016	89.00
573	Incident	HARTLEY.m8600_T1	7/12/2018 5:04:42 PM	Sag	V2	0.016	90.00
574	Incident	HARTLEY.m8600_T1	7/14/2018 5:53:57 PM	Sag	V1	0.016	90.00
575	Incident	HARTLEY.m8600_T1	7/16/2018 8:11:22 AM	Transient	V2	0.000585	126.00
576	Incident	HARTLEY.m8600_T1	7/16/2018 10:25:19 AM	Sag	V2	0.016	89.00
577	Incident	HARTLEY.m8600_T1	7/16/2018 5:43:35 PM	Sag	V1	0.016	90.00
578	Incident	HARTLEY.m8600_T1	7/17/2018 3:02:04 AM	Transient	V2	0.000585	124.00
579	Incident	HARTLEY.m8600_T1	7/17/2018 8:33:18 AM	Transient	V2	0.001106	128.00
580	Incident	HARTLEY.m8600_T1	7/17/2018 1:17:28 PM	Transient	V1	0.000781	142.00
581	Incident	HARTLEY.m8600_T1	7/17/2018 1:32:16 PM	Sag	V2	0.016	91.00
582	Incident	HARTLEY.m8600_T1	7/17/2018 11:08:45 PM	Sag	V2	0.016	90.00
583	Incident	HARTLEY.m8600_T1	7/18/2018 2:39:52 PM	Sag	V2	0.016	90.00
584	Incident	HARTLEY.m8600_T1	7/19/2018 12:15:48 AM	Sag	V2	0.016	91.00
585	Incident	HARTLEY.m8600_T1	7/19/2018 3:58:54 PM	Transient	V1	0.000520	130.00
586	Incident	HARTLEY.m8600_T1	7/20/2018 3:25:08 AM	Transient	V2	0.000390	123.00
587	Incident	HARTLEY.m8600_T1	7/20/2018 10:33:37 AM	Transient	V1	0.001236	131.00
588	Incident	HARTLEY.m8600_T1	7/20/2018 10:35:58 AM	Transient	V2	0.000716	126.00
589	Incident	HARTLEY.m8600_T1	7/20/2018 2:37:41 PM	Transient	V3	0.000130	122.00
590	Incident	HARTLEY.m8600_T1	7/21/2018 10:32:32 AM	Transient	V2	0.000585	133.00

591	Incident	HARTLEY.m8600_T1	7/21/2018 12:27:41 PM	Transient	V1	0.000065	120.00
592	Incident	HARTLEY.m8600_T1	7/21/2018 2:15:44 PM	Sag	V1	0.083	72.00
593	Incident	HARTLEY.m8600_T1	7/21/2018 2:47:09 PM	Sag	V2	0.291	78.00
594	Incident	HARTLEY.m8600_T1	7/21/2018 3:27:01 PM	Transient	V1	0.001367	137.00
595	Incident	HARTLEY.m8600_T1	7/21/2018 4:45:23 PM	Sag * Exceeds Tolerance	V2	0.910	28.00
596	Incident	HARTLEY.m8600_T1	7/21/2018 4:46:10 PM	Sag * Exceeds Tolerance	V2	0.911	29.00
597	Incident	HARTLEY.m8600_T1	7/21/2018 5:21:19 PM	Sag	V1	0.133	81.00
598	Incident	HARTLEY.m8600_T1	7/21/2018 10:27:08 PM	Transient	V2	0.000911	127.00
599	Incident	HARTLEY.m8600_T1	7/22/2018 9:40:51 AM	Transient	V3	0.000846	131.00
600	Incident	HARTLEY.m8600_T1	7/22/2018 1:20:07 PM	Sag	V2	0.016	89.00
601	Incident	HARTLEY.m8600_T1	7/23/2018 6:11:49 AM	Transient	V2	0.000390	123.00
602	Incident	HARTLEY.m8600_T1	7/23/2018 2:02:04 PM	Transient	V3	0.000325	124.00
603	Incident	HARTLEY.m8600_T1	7/23/2018 5:06:30 PM	Sag	V2	0.017	90.00
604	Incident	HARTLEY.m8600_T1	7/23/2018 6:32:35 PM	Transient	V1	0.002603	142.00
605	Incident	HARTLEY.m8600_T1	7/24/2018 11:31:59 AM	Transient	V1	0.001757	136.00
606	Incident	HARTLEY.m8600_T1	7/25/2018 2:12:21 AM	Transient	V2	0.000260	122.00
607	Incident	HARTLEY.m8600_T1	7/25/2018 7:35:48 AM	Transient	V2	0.001627	148.00
608	Incident	HARTLEY.m8600_T1	7/25/2018 10:27:44 AM	Sag	V2	0.016	91.00
609	Incident	HARTLEY.m8600_T1	7/26/2018 9:09:15 AM	Transient	V3	0.000781	131.00
610	Incident	HARTLEY.m8600_T1	7/26/2018 9:10:15 AM	Sag	V2	0.016	90.00
611	Incident	HARTLEY.m8600_T1	7/26/2018 10:35:32 AM	Transient	V2	0.000455	125.00
612	Incident	HARTLEY.m8600_T1	7/27/2018 12:03:52 AM	Sag	V2	0.016	90.00
613	Incident	HARTLEY.m8600_T1	7/27/2018 10:59:21 AM	Transient	V1	0.001366	142.00
614	Incident	HARTLEY.m8600_T1	7/27/2018 11:00:22 AM	Sag	V2	0.016	91.00
615	Incident	HARTLEY.m8600_T1	7/28/2018 11:18:55 AM	Transient	V2	0.000260	123.00
616	Incident	HARTLEY.m8600_T1	7/28/2018 12:42:19 PM	Transient	V3	0.000390	127.00
617	Incident	HARTLEY.m8600_T1	7/28/2018 6:34:36 PM	Sag	V1	0.016	89.00
618	Incident	HARTLEY.m8600_T1	7/28/2018 7:21:11 PM	Transient	V2	0.001952	124.00
619	Incident	HARTLEY.m8600_T1	7/29/2018 9:57:41 AM	Sag	V2	0.016	91.00
620	Incident	HARTLEY.m8600_T1	7/29/2018 1:42:33 PM	Transient	V2	0.001692	146.00
621	Incident	HARTLEY.m8600_T1	7/29/2018 1:44:43 PM	Sag	V2	0.016	91.00
622	Incident	HARTLEY.m8600_T1	7/29/2018 5:49:10 PM	Transient	V2	0.002864	124.00
623	Incident	HARTLEY.m8600_T1	7/29/2018 7:47:29 PM	Sag	V2	0.016	90.00
624	Incident	HARTLEY.m8600_T1	7/30/2018 7:34:43 AM	Transient	V1	0.001756	153.00

625	Incident	HARTLEY.m8600_T1	7/30/2018 10:45:05 AM	Transient	V2	0.000195	122.00
626	Incident	HARTLEY.m8600_T1	7/31/2018 11:25:00 AM	Transient	V2	0.001887	147.00
627	Incident	HARTLEY.m8600_T1	7/31/2018 3:25:42 PM	Sag	V2	0.016	91.00
628	Incident	HARTLEY.m8600_T1	7/31/2018 3:58:12 PM	Sag	V2	0.099	78.00
629	Incident	HARTLEY.m8600_T1	8/1/2018 10:41:24 AM	Transient	V3	0.000325	124.00
630	Incident	HARTLEY.m8600_T1	8/1/2018 10:43:02 AM	Transient	V2	0.000260	124.00
631	Incident	HARTLEY.m8600_T1	8/1/2018 4:51:14 PM	Sag	V2	0.016	90.00
632	Incident	HARTLEY.m8600_T1	8/1/2018 6:21:11 PM	Sag	V2	0.083	86.00
633	Incident	HARTLEY.m8600_T1	8/2/2018 9:16:09 AM	Transient	V2	0.001563	142.00
634	Incident	HARTLEY.m8600_T1	8/2/2018 12:22:37 PM	Transient	V2	0.000195	121.00
635	Incident	HARTLEY.m8600_T1	8/2/2018 5:47:25 PM	Transient	V2	0.002603	124.00
636	Incident	HARTLEY.m8600_T1	8/3/2018 1:49:58 AM	Transient	V2	0.000911	128.00
637	Incident	HARTLEY.m8600_T1	8/3/2018 9:55:43 AM	Transient	V1	0.001237	132.00
638	Incident	HARTLEY.m8600_T1	8/3/2018 10:28:59 AM	Transient	V2	0.000781	129.00
639	Incident	HARTLEY.m8600_T1	8/3/2018 7:05:10 PM	Transient	V2	0.000260	122.00
640	Incident	HARTLEY.m8600_T1	8/3/2018 7:32:17 PM	Transient	V2	0.000195	122.00
641	Incident	HARTLEY.m8600_T1	8/4/2018 9:03:34 AM	Transient	V2	0.000585	129.00
642	Incident	HARTLEY.m8600_T1	8/4/2018 12:07:18 PM	Transient	V2	0.000651	128.00
643	Incident	HARTLEY.m8600_T1	8/5/2018 7:59:48 AM	Transient	V2	0.000455	124.00
644	Incident	HARTLEY.m8600_T1	8/5/2018 11:27:10 AM	Transient	V3	0.000520	127.00
645	Incident	HARTLEY.m8600_T1	8/5/2018 8:24:59 PM	Sag	V2	0.016	89.00
646	Incident	HARTLEY.m8600_T1	8/5/2018 9:39:01 PM	Sag	V2	0.016	90.00
647	Incident	HARTLEY.m8600_T1	8/5/2018 10:10:12 PM	Transient	V2	0.000520	124.00
648	Incident	HARTLEY.m8600_T1	8/5/2018 10:36:54 PM	Sag	V2	0.016	91.00
649	Incident	HARTLEY.m8600_T1	8/6/2018 6:35:06 AM	Transient	V2	0.000260	122.00
650	Incident	HARTLEY.m8600_T1	8/6/2018 9:49:10 AM	Transient	V1	0.001432	134.00
651	Incident	HARTLEY.m8600_T1	8/6/2018 9:57:21 PM	Transient	V3	0.000260	122.00
652	Incident	HARTLEY.m8600_T1	8/7/2018 8:59:57 AM	Transient	V1	0.001627	140.00
653	Incident	HARTLEY.m8600_T1	8/7/2018 12:58:07 PM	Sag	V2	0.016	90.00
654	Incident	HARTLEY.m8600_T1	8/7/2018 3:47:02 PM	Transient	V2	0.000520	123.00
655	Incident	HARTLEY.m8600_T1	8/8/2018 10:17:02 AM	Transient	V2	0.001367	132.00
656	Incident	HARTLEY.m8600_T1	8/8/2018 10:18:03 AM	Transient	V1	0.000390	123.00
657	Incident	HARTLEY.m8600_T1	8/8/2018 6:09:46 PM	Sag	V2	0.016	90.00
658	Incident	HARTLEY.m8600_T1	8/8/2018 6:48:05 PM	Sag	V2	0.016	90.00

659	Incident	HARTLEY.m8600_T1	8/9/2018 10:12:48 AM	Transient	V1	0.001823	155.00
660	Incident	HARTLEY.m8600_T1	8/9/2018 10:13:34 AM	Sag	V2	0.016	90.00
661	Incident	HARTLEY.m8600_T1	8/9/2018 1:07:07 PM	Sag	V2	0.016	89.00
662	Incident	HARTLEY.m8600_T1	8/10/2018 1:17:58 AM	Transient	V2	0.000781	126.00
663	Incident	HARTLEY.m8600_T1	8/10/2018 10:05:36 AM	Transient	V3	0.000520	128.00
664	Incident	HARTLEY.m8600_T1	8/11/2018 9:11:18 AM	Transient	V3	0.000651	132.00
665	Incident	HARTLEY.m8600_T1	8/11/2018 9:12:23 AM	Sag	V2	0.016	88.00
666	Incident	HARTLEY.m8600_T1	8/11/2018 8:09:54 PM	Sag	V1	0.016	90.00
667	Incident	HARTLEY.m8600_T1	8/11/2018 8:55:40 PM	Sag	V2	0.016	89.00
668	Incident	HARTLEY.m8600_T1	8/11/2018 10:25:31 PM	Sag	V1	0.016	90.00
669	Incident	HARTLEY.m8600_T1	8/12/2018 9:47:13 AM	Transient	V2	0.000781	126.00
670	Incident	HARTLEY.m8600_T1	8/12/2018 10:52:32 AM	Transient	V3	0.000650	125.00
671	Incident	HARTLEY.m8600_T1	8/12/2018 6:45:58 PM	Sag	V2	0.016	89.00
672	Incident	HARTLEY.m8600_T1	8/13/2018 9:51:36 AM	Sag	V2	0.016	89.00
673	Incident	HARTLEY.m8600_T1	8/13/2018 10:41:49 AM	Transient	V3	0.000976	131.00
674	Incident	HARTLEY.m8600_T1	8/13/2018 10:00:44 PM	Transient	V2	0.000195	122.00
675	Incident	HARTLEY.m8600_T1	8/14/2018 9:28:03 AM	Transient	V2	0.001692	144.00
676	Incident	HARTLEY.m8600_T1	8/14/2018 9:28:39 AM	Sag	V2	0.016	91.00
677	Incident	HARTLEY.m8600_T1	8/14/2018 9:31:29 AM	Sag	V2	0.016	90.00
678	Incident	HARTLEY.m8600_T1	8/15/2018 9:39:54 AM	Transient	V1	0.000911	132.00
679	Incident	HARTLEY.m8600_T1	8/15/2018 9:40:56 AM	Sag	V2	0.016	91.00
680	Incident	HARTLEY.m8600_T1	8/15/2018 5:47:59 PM	Sag	V2	0.016	90.00
681	Incident	HARTLEY.m8600_T1	8/15/2018 10:09:15 PM	Sag	V2	0.016	90.00
682	Incident	HARTLEY.m8600_T1	8/16/2018 6:10:12 AM	Transient	V2	0.002344	149.00
683	Incident	HARTLEY.m8600_T1	8/16/2018 7:20:28 PM	Sag	V2	0.017	90.00
684	Incident	HARTLEY.m8600_T1	8/16/2018 11:16:53 PM	Sag	V2	0.008	91.00
685	Incident	HARTLEY.m8600_T1	8/17/2018 9:07:52 AM	Transient	V2	0.001302	142.00
686	Incident	HARTLEY.m8600_T1	8/17/2018 12:21:06 PM	Sag	V2	0.016	90.00
687	Incident	HARTLEY.m8600_T1	8/17/2018 9:14:52 PM	Transient	V2	0.001041	127.00
688	Incident	HARTLEY.m8600_T1	8/18/2018 4:11:15 AM	Transient	V2	0.002212	127.00
689	Incident	HARTLEY.m8600_T1	8/18/2018 10:59:59 AM	Transient	V1	0.001627	147.00
690	Incident	HARTLEY.m8600_T1	8/18/2018 12:05:18 PM	Transient	V1	0.000325	122.00
691	Incident	HARTLEY.m8600_T1	8/19/2018 9:04:59 AM	Transient	V3	0.001237	143.00
692	Incident	HARTLEY.m8600_T1	8/19/2018 10:26:38 AM	Transient	V1	0.000585	128.00

693	Incident	HARTLEY.m8600_T1	8/19/2018 10:27:24 AM	Transient	V2	0.000520	125.00
694	Incident	HARTLEY.m8600_T1	8/19/2018 9:03:24 PM	Sag	V2	0.016	89.00
695	Incident	HARTLEY.m8600_T1	8/20/2018 8:35:06 AM	Transient	V2	0.000846	128.00
696	Incident	HARTLEY.m8600_T1	8/20/2018 11:13:05 AM	Transient	V1	0.000585	130.00
697	Incident	HARTLEY.m8600_T1	8/20/2018 2:16:45 PM	Transient	V1	0.000651	126.00
698	Incident	HARTLEY.m8600_T1	8/20/2018 5:24:44 PM	Sag * Exceeds Tolerance	V2	0.984	32.00
699	Incident	HARTLEY.m8600_T1	8/21/2018 9:45:28 AM	Sag	V2	0.016	90.00
700	Incident	HARTLEY.m8600_T1	8/21/2018 11:30:49 AM	Sag	V2	0.016	91.00
701	Incident	HARTLEY.m8600_T1	8/21/2018 12:11:44 PM	Transient	V1	0.000520	129.00
702	Incident	HARTLEY.m8600_T1	8/21/2018 3:27:57 PM	Sag	V2	0.016	91.00
703	Incident	HARTLEY.m8600_T1	8/22/2018 9:23:38 AM	Transient	V3	0.000976	136.00
704	Incident	HARTLEY.m8600_T1	8/22/2018 9:24:39 AM	Sag	V2	0.016	90.00
705	Incident	HARTLEY.m8600_T1	8/22/2018 4:24:14 PM	Sag	V2	0.016	90.00
706	Incident	HARTLEY.m8600_T1	8/22/2018 4:36:04 PM	Transient	V1	0.000195	128.00
707	Incident	HARTLEY.m8600_T1	8/23/2018 11:11:39 AM	Transient	V1	0.000260	123.00
708	Incident	HARTLEY.m8600_T1	8/23/2018 7:22:49 PM	Sag	V2	0.016	89.00
709	Incident	HARTLEY.m8600_T1	8/23/2018 10:22:58 PM	Sag	V2	0.016	91.00
710	Incident	HARTLEY.m8600_T1	8/24/2018 9:47:51 AM	Transient	V2	0.000715	131.00
711	Incident	HARTLEY.m8600_T1	8/24/2018 9:48:53 AM	Sag	V2	0.016	90.00
712	Incident	HARTLEY.m8600_T1	8/24/2018 9:49:54 AM	Transient	V2	0.000325	123.00
713	Incident	HARTLEY.m8600_T1	8/24/2018 6:53:07 PM	Transient	V1	0.000585	124.00
714	Incident	HARTLEY.m8600_T1	8/24/2018 11:19:02 PM	Sag	V2	0.016	90.00
715	Incident	HARTLEY.m8600_T1	8/25/2018 10:32:13 AM	Transient	V1	0.001367	136.00
716	Incident	HARTLEY.m8600_T1	8/26/2018 12:01:06 AM	Transient	V1	0.000521	124.00
717	Incident	HARTLEY.m8600_T1	8/26/2018 9:27:27 AM	Transient	V2	0.000586	129.00
718	Incident	HARTLEY.m8600_T1	8/26/2018 6:17:12 PM	Sag	V2	0.016	90.00
719	Incident	HARTLEY.m8600_T1	8/26/2018 7:00:00 PM	Sag	V2	0.016	91.00
720	Incident	HARTLEY.m8600_T1	8/26/2018 11:51:28 PM	Transient	V2	0.000065	120.00
721	Incident	HARTLEY.m8600_T1	8/27/2018 9:00:59 AM	Transient	V2	0.001171	135.00
722	Incident	HARTLEY.m8600_T1	8/27/2018 9:49:01 AM	Transient	V2	0.000390	129.00
723	Incident	HARTLEY.m8600_T1	8/27/2018 11:30:19 AM	Transient	V1	0.000651	124.00
724	Incident	HARTLEY.m8600_T1	8/27/2018 11:34:20 PM	Transient	V2	0.000651	125.00
725	Incident	HARTLEY.m8600_T1	8/28/2018 2:23:50 PM	Transient	V3	0.000455	129.00
726	Incident	HARTLEY.m8600_T1	8/28/2018 3:23:20 PM	Transient	V2	0.000520	128.00

727	Incident	HARTLEY.m8600_T1	8/29/2018 10:36:22 AM	Transient	V1	0.001627	130.00
728	Incident	HARTLEY.m8600_T1	8/29/2018 8:37:51 PM	Sag	V2	0.016	89.00
729	Incident	HARTLEY.m8600_T1	8/30/2018 10:27:15 AM	Transient	V2	0.001367	139.00
730	Incident	HARTLEY.m8600_T1	8/30/2018 12:17:52 PM	Sag	V2	0.016	89.00
731	Incident	HARTLEY.m8600_T1	8/30/2018 12:45:04 PM	Transient	V2	0.000846	129.00
732	Incident	HARTLEY.m8600_T1	8/30/2018 12:46:12 PM	Sag	V2	0.016	90.00
733	Incident	HARTLEY.m8600_T1	8/31/2018 9:17:25 AM	Transient	V2	0.001627	141.00
734	Incident	HARTLEY.m8600_T1	8/31/2018 11:04:20 AM	Sag	V2	0.016	91.00
735	Incident	HARTLEY.m8600_T1	8/31/2018 1:27:52 PM	Transient	V2	0.000130	121.00
736	Incident	HARTLEY.m8600_T1	8/31/2018 6:36:03 PM	Sag	V2	0.016	90.00
737	Incident	HARTLEY.m8600_T1	8/31/2018 7:51:47 PM	Sag	V2	0.016	90.00
738	Incident	HARTLEY.m8600_T1	9/1/2018 12:25:54 AM	Sag	V2	0.016	91.00
739	Incident	HARTLEY.m8600_T1	9/1/2018 10:25:23 AM	Transient	V3	0.000455	126.00
740	Incident	HARTLEY.m8600_T1	9/1/2018 11:24:08 AM	Transient	V2	0.000651	127.00
741	Incident	HARTLEY.m8600_T1	9/1/2018 7:04:42 PM	Sag	V2	0.016	90.00
742	Incident	HARTLEY.m8600_T1	9/1/2018 10:27:45 PM	Sag	V2	0.016	91.00
743	Incident	HARTLEY.m8600_T1	9/2/2018 10:51:35 AM	Transient	V2	0.001236	136.00
744	Incident	HARTLEY.m8600_T1	9/3/2018 9:53:26 AM	Transient	V1	0.001171	136.00
745	Incident	HARTLEY.m8600_T1	9/3/2018 1:11:53 PM	Transient	V1	0.000846	129.00
746	Incident	HARTLEY.m8600_T1	9/4/2018 9:23:29 AM	Transient	V2	0.000325	124.00
747	Incident	HARTLEY.m8600_T1	9/4/2018 10:50:39 AM	Transient	V1	0.001563	142.00
748	Incident	HARTLEY.m8600_T1	9/4/2018 6:14:22 PM	Transient	V1	0.000455	129.00
749	Incident	HARTLEY.m8600_T1	9/4/2018 10:42:57 PM	Transient	V2	0.000195	121.00
750	Incident	HARTLEY.m8600_T1	9/6/2018 8:30:16 AM	Sag	V2	0.016	90.00
751	Incident	HARTLEY.m8600_T1	9/6/2018 9:27:48 AM	Transient	V2	0.000520	131.00
752	Incident	HARTLEY.m8600_T1	9/6/2018 9:28:49 AM	Transient	V2	0.000130	121.00
753	Incident	HARTLEY.m8600_T1	9/6/2018 10:32:32 AM	Sag	V2	0.016	89.00
754	Incident	HARTLEY.m8600_T1	9/7/2018 9:01:36 AM	Transient	V2	0.000390	124.00
755	Incident	HARTLEY.m8600_T1	9/7/2018 11:30:55 AM	Transient	V1	0.001822	130.00
756	Incident	HARTLEY.m8600_T1	9/7/2018 11:31:58 AM	Sag	V2	0.016	91.00
757	Incident	HARTLEY.m8600_T1	9/7/2018 7:34:08 PM	Sag	V2	0.017	91.00
758	Incident	HARTLEY.m8600_T1	9/8/2018 10:30:27 AM	Transient	V1	0.000911	131.00
759	Incident	HARTLEY.m8600_T1	9/9/2018 11:44:21 AM	Transient	V1	0.001367	132.00
760	Incident	HARTLEY.m8600_T1	9/9/2018 8:23:08 PM	Sag	V2	0.016	89.00

761	Incident	HARTLEY.m8600_T1	9/10/2018 10:11:33 AM	Transient	V2	0.001692	150.00
762	Incident	HARTLEY.m8600_T1	9/10/2018 6:07:33 PM	Sag	V2	0.016	91.00
763	Incident	HARTLEY.m8600_T1	9/10/2018 7:53:17 PM	Sag	V2	0.051	84.00
764	Incident	HARTLEY.m8600_T1	9/10/2018 10:00:00 PM	Sag	V2	0.016	90.00
765	Incident	HARTLEY.m8600_T1	9/11/2018 9:37:05 AM	Transient	V3	0.000716	130.00
766	Incident	HARTLEY.m8600_T1	9/11/2018 9:37:53 AM	Transient * Exceeds	V2	0.004361	134.00
767	Incident	HARTLEY.m8600_T1	9/11/2018 9:38:57 AM	Sag	V2	0.016	91.00
768	Incident	HARTLEY.m8600_T1	9/11/2018 9:39:59 AM	Transient	V2	0.000065	120.00
769	Incident	HARTLEY.m8600_T1	9/12/2018 7:15:03 AM	Transient	V2	0.001562	146.00
770	Incident	HARTLEY.m8600_T1	9/12/2018 10:02:33 AM	Transient	V2	0.000651	126.00
771	Incident	HARTLEY.m8600_T1	9/12/2018 10:03:36 AM	Sag	V2	0.016	90.00
772	Incident	HARTLEY.m8600_T1	9/12/2018 10:05:56 AM	Sag	V2	0.016	90.00
773	Incident	HARTLEY.m8600_T1	9/12/2018 6:56:21 PM	Sag	V2	0.016	91.00
774	Incident	HARTLEY.m8600_T1	9/13/2018 7:10:33 AM	Transient	V2	0.000585	126.00
775	Incident	HARTLEY.m8600_T1	9/13/2018 7:11:40 AM	Transient	V2	0.000260	123.00
776	Incident	HARTLEY.m8600_T1	9/13/2018 11:44:51 AM	Transient	V1	0.000586	129.00
777	Incident	HARTLEY.m8600_T1	9/13/2018 11:45:53 AM	Transient	V2	0.000390	124.00
778	Incident	HARTLEY.m8600_T1	9/13/2018 7:07:41 PM	Sag	V1	0.016	90.00
779	Incident	HARTLEY.m8600_T1	9/14/2018 7:00:34 AM	Transient	V2	0.001367	129.00
780	Incident	HARTLEY.m8600_T1	9/14/2018 9:00:47 AM	Transient	V1	0.002343	149.00
781	Incident	HARTLEY.m8600_T1	9/14/2018 9:57:19 AM	Sag	V2	0.016	91.00
782	Incident	HARTLEY.m8600_T1	9/14/2018 11:00:40 AM	Sag * Exceeds Tolerance	V2	0.058	50.00
783	Incident	HARTLEY.m8600_T1	9/15/2018 11:58:16 AM	Transient	V2	0.000325	121.00
784	Incident	HARTLEY.m8600_T1	9/15/2018 9:06:43 PM	Sag	V2	0.016	90.00
785	Incident	HARTLEY.m8600_T1	9/15/2018 11:04:13 PM	Sag	V2	0.016	91.00
786	Incident	HARTLEY.m8600_T1	9/16/2018 9:40:14 AM	Transient	V1	0.000651	126.00
787	Incident	HARTLEY.m8600_T1	9/16/2018 9:42:43 AM	Sag	V2	0.016	90.00
788	Incident	HARTLEY.m8600_T1	9/16/2018 7:20:23 PM	Sag	V2	0.017	90.00
789	Incident	HARTLEY.m8600_T1	9/17/2018 1:33:33 AM	Transient	V2	0.000260	122.00
790	Incident	HARTLEY.m8600_T1	9/17/2018 1:33:22 PM	Transient	V2	0.000390	127.00
791	Incident	HARTLEY.m8600_T1	9/18/2018 2:14:56 AM	Transient	V2	0.002018	128.00
792	Incident	HARTLEY.m8600_T1	9/18/2018 8:26:04 AM	Sag	V2	0.016	89.00
793	Incident	HARTLEY.m8600_T1	9/18/2018 9:11:42 AM	Transient	V3	0.000585	129.00
794	Incident	HARTLEY.m8600_T1	9/18/2018 7:22:06 PM	Sag	V2	0.016	91.00

795	Incident	HARTLEY.m8600_T1	9/19/2018 5:45:30 AM	Sag	V1	0.024	72.00
796	Incident	HARTLEY.m8600_T1	9/19/2018 11:33:13 AM	Transient	V3	0.000455	127.00
797	Incident	HARTLEY.m8600_T1	9/19/2018 10:39:00 PM	Sag	V2	0.016	91.00
798	Incident	HARTLEY.m8600_T1	9/20/2018 10:27:28 AM	Transient	V2	0.002343	145.00
799	Incident	HARTLEY.m8600_T1	9/21/2018 9:43:30 AM	Transient	V2	0.001236	135.00
800	Incident	HARTLEY.m8600_T1	9/21/2018 9:44:31 AM	Sag	V2	0.008	91.00
801	Incident	HARTLEY.m8600_T1	9/21/2018 12:14:33 PM	Sag	V2	0.016	90.00
802	Incident	HARTLEY.m8600_T1	9/21/2018 7:25:48 PM	Sag	V2	0.016	90.00
803	Incident	HARTLEY.m8600_T1	9/21/2018 11:31:12 PM	Transient	V2	0.000065	120.00
804	Incident	HARTLEY.m8600_T1	9/22/2018 11:16:16 AM	Sag	V2	0.016	90.00
805	Incident	HARTLEY.m8600_T1	9/22/2018 2:45:21 PM	Transient	V3	0.000260	124.00
806	Incident	HARTLEY.m8600_T1	9/22/2018 9:29:16 PM	Transient	V2	0.000390	123.00
807	Incident	HARTLEY.m8600_T1	9/22/2018 10:36:23 PM	Sag	V2	0.016	91.00
808	Incident	HARTLEY.m8600_T1	9/23/2018 1:08:36 AM	Transient	V2	0.002083	127.00
809	Incident	HARTLEY.m8600_T1	9/23/2018 8:28:20 AM	Transient	V2	0.001106	138.00
810	Incident	HARTLEY.m8600_T1	9/23/2018 10:32:35 AM	Sag	V2	0.016	90.00
811	Incident	HARTLEY.m8600_T1	9/23/2018 7:11:53 PM	Sag	V2	0.016	90.00
812	Incident	HARTLEY.m8600_T1	9/24/2018 12:50:37 AM	Transient	V2	0.001041	127.00
813	Incident	HARTLEY.m8600_T1	9/24/2018 6:29:44 AM	Sag	V1	0.016	89.00
814	Incident	HARTLEY.m8600_T1	9/24/2018 10:17:49 AM	Transient	V2	0.000585	133.00
815	Incident	HARTLEY.m8600_T1	9/24/2018 7:24:47 PM	Sag	V2	0.016	89.00
816	Incident	HARTLEY.m8600_T1	9/24/2018 10:14:00 PM	Transient	V2	0.000976	127.00
817	Incident	HARTLEY.m8600_T1	9/25/2018 9:09:26 AM	Transient	V3	0.000585	132.00
818	Incident	HARTLEY.m8600_T1	9/26/2018 10:21:57 AM	Transient	V2	0.000716	131.00
819	Incident	HARTLEY.m8600_T1	9/26/2018 10:07:44 PM	Sag	V2	0.016	90.00
820	Incident	HARTLEY.m8600_T1	9/27/2018 12:23:39 PM	Transient	V1	0.001172	142.00
821	Incident	HARTLEY.m8600_T1	9/28/2018 7:40:10 AM	Transient	V1	0.000585	129.00
822	Incident	HARTLEY.m8600_T1	9/28/2018 9:01:54 AM	Transient	V2	0.000455	125.00
823	Incident	HARTLEY.m8600_T1	9/28/2018 5:49:52 PM	Sag	V2	0.016	90.00
824	Incident	HARTLEY.m8600_T1	9/28/2018 7:04:17 PM	Sag	V2	0.016	91.00
825	Incident	HARTLEY.m8600_T1	9/28/2018 10:09:12 PM	Transient	V1	0.001627	125.00
826	Incident	HARTLEY.m8600_T1	9/29/2018 8:41:00 AM	Transient	V3	0.001041	131.00
827	Incident	HARTLEY.m8600_T1	9/30/2018 9:36:21 AM	Transient	V2	0.001106	134.00
828	Incident	HARTLEY.m8600_T1	9/30/2018 11:41:34 AM	Transient	V3	0.000260	124.00

829	Incident	HARTLEY.m8600_T1	9/30/2018 1:10:59 PM	Sag	V2	0.016	89.00

Incident Statistics

Incident		First TimeStamp	Incident Duration	# Transients	# Sags	# Swells	Interruptions
1	Incident	10/1/2017 9:57:53 PM	0.058	0	1	0	0
2	Incident	10/2/2017 6:45:31 AM	0.000130	1	0	0	0
3	Incident	10/2/2017 9:12:53 AM	0.001366	1	0	0	0
4	Incident	10/3/2017 8:03:49 AM	0.000911	1	0	0	0
5	Incident	10/3/2017 10:47:26 AM	0.000976	1	0	0	0
6	Incident	10/3/2017 9:09:41 PM	0.016	0	1	0	0
7	Incident	10/4/2017 9:16:23 AM	0.000586	1	0	0	0
8	Incident	10/4/2017 12:30:07 PM	0.000976	1	0	0	0
9	Incident	10/5/2017 8:45:57 AM	0.033	0	1	0	0
10	Incident	10/5/2017 9:32:39 AM	0.017000	2	0	0	0
11	Incident	10/5/2017 4:41:44 PM	0.016	0	1	0	0
12	Incident	10/6/2017 9:27:33 AM	0.000976	1	0	0	0
13	Incident	10/6/2017 11:06:36 AM	0.001563	1	0	0	0
14	Incident	10/7/2017 10:22:31 AM	0.001888	1	0	0	0
15	Incident	10/7/2017 10:25:51 AM	0.000846	1	0	0	0
16	Incident	10/8/2017 9:23:00 AM	0.000651	1	0	0	0
17	Incident	10/8/2017 10:26:46 AM	0.000195	1	0	0	0
18	Incident	10/9/2017 2:48:22 AM	0.058	0	1	0	0
19	Incident	10/9/2017 6:11:33 AM	0.017000	2	0	0	0
20	Incident	10/9/2017 9:34:03 AM	0.000260	1	0	0	0
21	Incident	10/10/2017 7:27:41 AM	0.001366	1	0	0	0
22	Incident	10/10/2017 10:42:53 AM	0.000976	1	0	0	0
23	Incident	10/11/2017 10:07:12 AM	0.000911	1	0	0	0
24	Incident	10/11/2017 10:09:05 AM	0.001236	1	0	0	0
25	Incident	10/11/2017 7:05:49 PM	0.050	0	1	0	0
26	Incident	10/12/2017 12:31:03 PM	0.000911	1	0	0	0
27	Incident	10/12/2017 12:44:36 PM	0.001757	1	0	0	0
28	Incident	10/13/2017 7:55:53 AM	0.001302	1	0	0	0
29	Incident	10/13/2017 9:47:44 AM	0.000585	1	0	0	0
30	Incident	10/13/2017 9:48:22 AM	0.000716	1	0	0	0
31	Incident	10/13/2017 2:37:46 PM	0.016	0	1	0	0
32	Incident	10/14/2017 12:05:07 PM	0.018000	2	0	0	0
33	Incident	10/14/2017 12:06:09 PM	0.000390	1	0	0	0
34	Incident	10/14/2017 12:07:29 PM	0.001041	1	0	0	0
35	Incident	10/15/2017 2:57:31 AM	0.000325	1	0	0	0
36	Incident	10/15/2017 11:45:38 AM	0.000976	1	0	0	0
37	Incident	10/15/2017 12:37:08 PM	0.001432	1	0	0	0
38	Incident	10/16/2017 12:52:10 AM	0.000390	1	0	0	0
39	Incident	10/16/2017 9:36:20 AM	0.000976	1	0	0	0
40	Incident	10/16/2017 9:39:20 AM	0.000130	1	0	0	0
41	Incident	10/16/2017 10:40:40 AM	0.001172	1	0	0	0
42	Incident	10/16/2017 11:44:53 PM	0.000130	1	0	0	0
43	Incident	10/17/2017 7:43:43 AM	0.016	0	1	0	0

44	Incident	10/18/2017 1:58:05 PM	0.001562	1	0	0	0
45	Incident	10/18/2017 3:30:54 PM	0.017000	2	0	0	0
46	Incident	10/19/2017 10:06:52 AM	0.001366	1	0	0	0
47	Incident	10/19/2017 4:41:53 PM	0.000260	1	0	0	0
48	Incident	10/20/2017 8:39:36 AM	0.000325	1	0	0	0
49	Incident	10/20/2017 11:31:22 AM	0.000976	1	0	0	0
50	Incident	10/21/2017 2:05:39 AM	0.000390	1	0	0	0
51	Incident	10/21/2017 7:54:27 AM	0.001496	1	0	0	0
52	Incident	10/21/2017 12:13:43 PM	0.000195	1	0	0	0
53	Incident	10/22/2017 10:11:29 AM	0.000455	1	0	0	0
54	Incident	10/22/2017 10:12:33 AM	0.016	0	1	0	0
55	Incident	10/22/2017 1:22:47 PM	0.016000	2	0	0	0
56	Incident	10/22/2017 5:53:30 PM	0.016	0	1	0	0
57	Incident	10/23/2017 1:23:45 PM	0.001041	1	0	0	0
58	Incident	10/23/2017 1:24:48 PM	0.016	0	1	0	0
59	Incident	10/23/2017 1:25:39 PM	0.001496	1	0	0	0
60	Incident	10/23/2017 1:26:42 PM	0.000585	1	0	0	0
61	Incident	10/24/2017 11:24:10 AM	0.001302	1	0	0	0
62	Incident	10/24/2017 6:35:13 PM	0.001172	1	0	0	0
63	Incident	10/25/2017 10:34:21 AM	0.002083	1	0	0	0
64	Incident	10/27/2017 3:16:27 PM	0.000716	1	0	0	0
65	Incident	10/27/2017 8:30:52 PM	0.000195	1	0	0	0
66	Incident	10/29/2017 8:38:46 AM	0.000455	1	0	0	0
67	Incident	11/1/2017 4:31:29 PM	0.016	0	1	0	0
68	Incident	11/1/2017 5:57:41 PM	0.016	0	1	0	0
69	Incident	11/1/2017 5:58:21 PM	0.025	0	1	0	0
70	Incident	11/1/2017 6:00:57 PM	0.267000	1	1	0	0
71	Incident	11/2/2017 1:01:38 PM	0.000846	1	0	0	0
72	Incident	11/2/2017 6:04:56 PM	0.000065	1	0	0	0
73	Incident	11/3/2017 9:59:54 AM	0.000976	1	0	0	0
74	Incident	11/3/2017 12:43:03 PM	0.000976	1	0	0	0
75	Incident	11/3/2017 2:48:41 PM	0.000585	1	0	0	0
76	Incident	11/4/2017 2:28:01 PM	0.017000	2	0	0	0
77	Incident	11/5/2017 9:57:14 AM	0.000325	1	0	0	0
78	Incident	11/5/2017 8:40:03 PM	0.000325	1	0	0	0
79	Incident	11/6/2017 11:52:05 AM	0.001562	1	0	0	0
80	Incident	11/7/2017 10:19:30 AM	0.000976	1	0	0	0
81	Incident	11/7/2017 10:20:34 AM	0.000390	1	0	0	0
82	Incident	11/7/2017 5:27:31 PM	0.016	0	1	0	0
83	Incident	11/7/2017 9:52:00 PM	0.058	0	1	0	0
84	Incident	11/8/2017 6:22:47 AM	0.000781	1	0	0	0
85	Incident	11/8/2017 11:51:16 AM	0.000846	1	0	0	0
86	Incident	11/8/2017 2:17:54 PM	0.000650	1	0	0	0
87	Incident	11/9/2017 11:46:17 AM	0.000781	1	0	0	0
88	Incident	11/9/2017 10:46:19 PM	0.000585	1	0	0	0
89	Incident	11/10/2017 10:41:17 AM	0.000130	1	0	0	0
90	Incident	11/13/2017 1:54:52 PM	0.000520	1	0	0	0

91	Incident	11/13/2017 1:55:20 PM	3.834000	2	0	0	0
92	Incident	11/15/2017 12:40:23 AM	0.000260	1	0	0	0
93	Incident	11/18/2017 11:59:00 AM	0.018000	2	0	0	0
94	Incident	11/18/2017 8:58:57 PM	0.000130	1	0	0	0
95	Incident	11/19/2017 1:53:27 AM	0.000520	1	0	0	0
96	Incident	11/22/2017 11:31:24 AM	0.000650	1	0	0	0
97	Incident	11/25/2017 5:27:24 AM	0.074	0	1	0	0
98	Incident	11/27/2017 1:17:45 PM	0.066	0	1	0	0
99	Incident	11/28/2017 1:14:04 PM	0.001497	1	0	0	0
100	Incident	12/1/2017 7:20:35 AM	0.001497	1	0	0	0
101	Incident	12/1/2017 7:23:28 PM	0.000130	1	0	0	0
102	Incident	12/3/2017 5:38:20 PM	0.001171	1	0	0	0
103	Incident	12/3/2017 5:42:00 PM	0.000976	1	0	0	0
104	Incident	12/4/2017 3:11:31 PM	0.000781	1	0	0	0
105	Incident	12/4/2017 5:08:52 PM	0.000260	1	0	0	0
106	Incident	12/5/2017 9:34:24 AM	0.000520	1	0	0	0
107	Incident	12/6/2017 5:28:25 AM	0.000130	1	0	0	0
108	Incident	12/6/2017 10:41:33 AM	0.000651	1	0	0	0
109	Incident	12/6/2017 12:35:07 PM	0.000520	1	0	0	0
110	Incident	12/6/2017 3:13:04 PM	0.058	0	1	0	0
111	Incident	12/6/2017 11:07:38 PM	0.000716	1	0	0	0
112	Incident	12/11/2017 6:00:26 AM	0.000846	1	0	0	0
113	Incident	12/11/2017 9:07:25 PM	0.000846	1	0	0	0
114	Incident	12/12/2017 6:14:44 AM	0.001302	1	0	0	0
115	Incident	12/12/2017 5:29:14 PM	0.000195	1	0	0	0
116	Incident	12/13/2017 5:13:29 AM	0.000716	1	0	0	0
117	Incident	12/15/2017 3:40:30 AM	0.074	0	1	0	0
118	Incident	12/17/2017 12:07:12 AM	0.000260	1	0	0	0
119	Incident	12/17/2017 7:05:12 AM	2.217000	1	1	0	0
120	Incident	12/18/2017 9:10:29 AM	0.000911	1	0	0	0
121	Incident	12/19/2017 1:35:42 AM	0.000195	1	0	0	0
122	Incident	12/19/2017 10:03:32 AM	0.000976	1	0	0	0
123	Incident	12/19/2017 1:19:36 PM	0.016	0	1	0	0
124	Incident	12/19/2017 3:54:08 PM	0.066	0	1	0	0
125	Incident	12/20/2017 5:23:22 AM	0.000325	1	0	0	0
126	Incident	12/20/2017 9:54:37 AM	0.001302	1	0	0	0
127	Incident	12/20/2017 2:46:16 PM	0.000130	1	0	0	0
128	Incident	12/21/2017 10:19:45 AM	0.000325	1	0	0	0
129	Incident	12/22/2017 7:12:37 AM	0.000325	1	0	0	0
130	Incident	12/22/2017 9:20:10 AM	0.000846	1	0	0	0
131	Incident	12/22/2017 6:40:04 PM	0.016	0	1	0	0
132	Incident	12/29/2017 6:30:43 AM	0.000716	1	0	0	0
133	Incident	12/29/2017 3:22:28 PM	0.000911	1	0	0	0
134	Incident	12/31/2017 6:06:39 AM	0.000716	1	0	0	0
135	Incident	1/1/2018 8:51:44 AM	0.017000	2	0	0	0
136	Incident	1/1/2018 5:39:45 PM	0.125	0	1	0	0
137	Incident	1/3/2018 5:22:03 AM	0.000716	1	0	0	0

138	Incident	1/3/2018 6:53:07 AM	0.001171	1	0	0	0
139	Incident	1/3/2018 5:27:04 PM	0.000390	1	0	0	0
140	Incident	1/4/2018 10:44:40 AM	0.016	0	1	0	0
141	Incident	1/5/2018 3:23:34 AM	0.000260	1	0	0	0
142	Incident	1/5/2018 6:02:41 PM	0.000585	1	0	0	0
143	Incident	1/6/2018 5:51:48 PM	0.000585	1	0	0	0
144	Incident	1/7/2018 1:22:11 AM	0.017000	2	0	0	0
145	Incident	1/7/2018 6:04:44 PM	0.000650	1	0	0	0
146	Incident	1/8/2018 5:54:05 AM	0.000390	1	0	0	0
147	Incident	1/9/2018 6:21:32 AM	0.000911	1	0	0	0
148	Incident	1/10/2018 12:47:26 PM	0.058	0	2	0	0
149	Incident	1/10/2018 12:48:28 PM	0.458	0	6	0	0
150	Incident	1/10/2018 10:28:23 PM	0.000065	1	0	0	0
151	Incident	1/11/2018 6:08:09 AM	0.001106	1	0	0	0
152	Incident	1/11/2018 9:04:28 PM	0.000651	1	0	0	0
153	Incident	1/12/2018 5:18:58 AM	0.000195	1	0	0	0
154	Incident	1/14/2018 6:45:49 AM	0.001367	1	0	0	0
155	Incident	1/15/2018 3:31:46 AM	0.000976	1	0	0	0
156	Incident	1/15/2018 6:24:42 PM	0.001171	1	0	0	0
157	Incident	1/15/2018 9:56:58 PM	0.001301	1	0	0	0
158	Incident	1/16/2018 2:10:41 AM	0.000585	1	0	0	0
159	Incident	1/16/2018 4:08:27 AM	0.001302	1	0	0	0
160	Incident	1/17/2018 4:08:11 AM	0.001562	1	0	0	0
161	Incident	1/17/2018 5:47:41 PM	0.000520	1	0	0	0
162	Incident	1/17/2018 9:04:54 PM	0.000977	1	0	0	0
163	Incident	1/20/2018 6:26:17 AM	0.001236	1	0	0	0
164	Incident	1/22/2018 5:53:08 AM	0.000716	1	0	0	0
165	Incident	1/23/2018 3:03:17 PM	0.100	0	1	0	0
166	Incident	1/23/2018 6:12:05 PM	0.016	0	1	0	0
167	Incident	1/24/2018 6:30:45 AM	0.000455	1	0	0	0
168	Incident	1/24/2018 9:45:41 AM	0.041	0	1	0	0
169	Incident	1/24/2018 8:30:21 PM	0.000130	1	0	0	0
170	Incident	1/25/2018 6:51:52 AM	0.000586	1	0	0	0
171	Incident	1/25/2018 9:26:25 PM	0.016	0	1	0	0
172	Incident	1/26/2018 5:55:32 PM	0.001628	1	0	0	0
173	Incident	1/26/2018 7:45:33 PM	0.000715	1	0	0	0
174	Incident	1/27/2018 8:38:00 AM	0.000065	1	0	0	0
175	Incident	1/28/2018 8:00:02 AM	0.000195	1	0	0	0
176	Incident	1/28/2018 9:59:21 AM	0.000781	1	0	0	0
177	Incident	1/30/2018 6:14:54 AM	0.000260	1	0	0	0
178	Incident	2/1/2018 5:25:02 AM	0.000065	1	0	0	0
179	Incident	2/1/2018 10:13:36 AM	0.891000	1	1	0	0
180	Incident	2/2/2018 5:16:42 AM	0.000195	1	0	0	0
181	Incident	2/3/2018 5:09:06 AM	0.000130	1	0	0	0
182	Incident	2/3/2018 5:09:28 AM	0.017000	2	0	0	0
183	Incident	2/4/2018 1:38:18 PM	0.001367	1	0	0	0
184	Incident	2/4/2018 11:15:07 PM	0.033	0	1	0	0

185	Incident	2/5/2018 7:04:40 AM	0.018000	2	0	0	0
186	Incident	2/5/2018 8:26:31 PM	0.016	0	1	0	0
187	Incident	2/7/2018 5:50:11 AM	0.000716	1	0	0	0
188	Incident	2/7/2018 5:53:04 AM	0.000390	1	0	0	0
189	Incident	2/7/2018 8:08:34 AM	0.000977	1	0	0	0
190	Incident	2/7/2018 12:32:31 PM	0.001497	1	0	0	0
191	Incident	2/8/2018 6:05:34 AM	0.000130	1	0	0	0
192	Incident	2/9/2018 6:26:07 AM	0.001171	1	0	0	0
193	Incident	2/10/2018 9:43:09 AM	0.000846	1	0	0	0
194	Incident	2/10/2018 11:21:15 PM	0.066	0	1	0	0
195	Incident	2/11/2018 1:44:17 AM	0.000260	1	0	0	0
196	Incident	2/11/2018 8:53:41 PM	0.000585	1	0	0	0
197	Incident	2/12/2018 12:17:06 AM	0.066	0	1	0	0
198	Incident	2/12/2018 8:26:26 AM	0.001301	1	0	0	0
199	Incident	2/12/2018 7:48:16 PM	0.000325	1	0	0	0
200	Incident	2/13/2018 5:53:56 AM	0.000260	1	0	0	0
201	Incident	2/14/2018 7:53:45 AM	0.001041	1	0	0	0
202	Incident	2/14/2018 7:54:45 AM	0.000455	1	0	0	0
203	Incident	2/14/2018 5:42:30 PM	0.000520	1	0	0	0
204	Incident	2/15/2018 6:22:34 AM	0.000846	1	0	0	0
205	Incident	2/15/2018 9:34:09 AM	0.000065	1	0	0	0
206	Incident	2/15/2018 10:26:07 PM	0.000130	1	0	0	0
207	Incident	2/15/2018 10:54:18 PM	1.967000	2	0	0	0
208	Incident	2/16/2018 11:37:51 AM	0.000520	1	0	0	0
209	Incident	2/16/2018 1:06:42 PM	0.000846	1	0	0	0
210	Incident	2/16/2018 3:29:27 PM	0.000455	1	0	0	0
211	Incident	2/17/2018 11:06:51 AM	0.001041	1	0	0	0
212	Incident	2/17/2018 8:58:53 PM	0.000260	1	0	0	0
213	Incident	2/18/2018 11:23:45 AM	0.001041	1	0	0	0
214	Incident	2/18/2018 1:31:35 PM	0.000911	1	0	0	0
215	Incident	2/18/2018 1:40:13 PM	0.002670	1	0	0	0
216	Incident	2/18/2018 7:57:03 PM	0.000325	1	0	0	0
217	Incident	2/19/2018 1:38:54 PM	0.000651	1	0	0	0
218	Incident	2/20/2018 9:12:44 AM	0.000130	1	0	0	0
219	Incident	2/20/2018 1:19:49 PM	0.000390	1	0	0	0
220	Incident	2/21/2018 11:31:37 AM	0.000846	1	0	0	0
221	Incident	2/21/2018 10:23:53 PM	0.016	0	1	0	0
222	Incident	2/22/2018 12:36:16 PM	0.016	0	1	0	0
223	Incident	2/22/2018 1:47:34 PM	0.016	0	1	0	0
224	Incident	2/22/2018 3:02:06 PM	0.000911	1	0	0	0
225	Incident	2/22/2018 3:03:09 PM	0.000325	1	0	0	0
226	Incident	2/22/2018 7:03:50 PM	0.000781	1	0	0	0
227	Incident	2/23/2018 8:13:06 AM	0.000260	1	0	0	0
228	Incident	2/23/2018 11:57:54 AM	0.000390	1	0	0	0
229	Incident	2/23/2018 1:13:08 PM	0.000585	1	0	0	0
230	Incident	2/24/2018 5:54:46 AM	0.058	0	1	0	0
231	Incident	2/24/2018 1:46:48 PM	0.018000	2	0	0	0

232	Incident	2/24/2018 7:09:40 PM	0.016	0	1	0	0
233	Incident	2/25/2018 8:08:01 AM	0.000195	1	0	0	0
234	Incident	2/25/2018 11:28:42 AM	0.016	0	1	0	0
235	Incident	2/25/2018 11:53:18 AM	0.001106	1	0	0	0
236	Incident	2/26/2018 6:09:35 AM	0.016	0	1	0	0
237	Incident	2/26/2018 9:40:47 AM	0.000911	1	0	0	0
238	Incident	2/26/2018 9:49:59 AM	0.000455	1	0	0	0
239	Incident	2/26/2018 12:16:30 PM	0.000065	1	0	0	0
240	Incident	2/26/2018 12:58:23 PM	0.001106	1	0	0	0
241	Incident	2/26/2018 6:46:09 PM	0.016	0	1	0	0
242	Incident	2/26/2018 7:01:06 PM	0.016	0	1	0	0
243	Incident	2/26/2018 7:29:52 PM	0.016	0	1	0	0
244	Incident	2/28/2018 4:02:45 AM	0.000260	1	0	0	0
245	Incident	3/1/2018 11:23:18 AM	0.000390	1	0	0	0
246	Incident	3/1/2018 11:24:22 AM	0.016	0	1	0	0
247	Incident	3/2/2018 2:17:37 PM	0.001627	1	0	0	0
248	Incident	3/2/2018 5:53:27 PM	0.000325	1	0	0	0
249	Incident	3/5/2018 7:01:34 AM	0.001302	1	0	0	0
250	Incident	3/6/2018 8:18:43 AM	0.016	0	1	0	0
251	Incident	3/6/2018 4:32:42 PM	0.001172	1	0	0	0
252	Incident	3/6/2018 5:24:58 PM	0.024	0	1	0	0
253	Incident	3/6/2018 10:28:28 PM	0.000390	1	0	0	0
254	Incident	3/10/2018 7:03:27 PM	0.001236	1	0	0	0
255	Incident	3/11/2018 11:54:44 AM	0.017	0	1	0	0
256	Incident	3/11/2018 3:11:56 PM	0.001301	1	0	0	0
257	Incident	3/11/2018 3:12:58 PM	0.000130	1	0	0	0
258	Incident	3/12/2018 1:12:05 AM	0.000065	1	0	0	0
259	Incident	3/17/2018 4:40:23 PM	0.001302	1	0	0	0
260	Incident	3/18/2018 9:45:28 AM	0.002279	1	0	0	0
261	Incident	3/19/2018 8:55:08 AM	0.001432	1	0	0	0
262	Incident	3/19/2018 2:05:55 PM	0.000390	1	0	0	0
263	Incident	3/20/2018 8:17:16 AM	0.000781	1	0	0	0
264	Incident	3/21/2018 2:02:44 PM	0.075	0	1	0	0
265	Incident	3/21/2018 2:26:31 PM	0.074	0	1	0	0
266	Incident	3/21/2018 2:53:42 PM	0.084	0	1	0	0
267	Incident	3/21/2018 2:58:17 PM	0.075	0	1	0	0
268	Incident	3/21/2018 2:59:15 PM	0.066	0	1	0	0
269	Incident	3/24/2018 8:02:57 AM	0.000325	1	0	0	0
270	Incident	3/25/2018 8:35:27 AM	0.000651	1	0	0	0
271	Incident	3/28/2018 6:10:46 AM	0.000325	1	0	0	0
272	Incident	3/28/2018 4:21:44 PM	0.001756	1	0	0	0
273	Incident	3/29/2018 12:30:25 PM	0.001693	1	0	0	0
274	Incident	3/29/2018 7:28:02 PM	0.000130	1	0	0	0
275	Incident	3/30/2018 10:36:55 AM	0.000911	1	0	0	0
276	Incident	3/30/2018 11:11:42 AM	0.000390	1	0	0	0
277	Incident	3/30/2018 11:59:08 AM	0.016	0	1	0	0
278	Incident	3/30/2018 3:53:46 PM	0.000585	1	0	0	0

279	Incident	4/1/2018 9:12:37 PM	0.000195	1	0	0	0
280	Incident	4/2/2018 5:40:06 PM	0.000390	1	0	0	0
281	Incident	4/2/2018 6:00:34 PM	0.016	0	1	0	0
282	Incident	4/2/2018 6:41:49 PM	0.016	0	1	0	0
283	Incident	4/2/2018 8:43:59 PM	0.016	0	1	0	0
284	Incident	4/3/2018 10:18:25 AM	0.000585	1	0	0	0
285	Incident	4/3/2018 12:19:58 PM	0.017000	2	0	0	0
286	Incident	4/3/2018 12:24:03 PM	0.000065	1	0	0	0
287	Incident	4/3/2018 4:18:37 PM	0.016	0	1	0	0
288	Incident	4/4/2018 6:01:12 AM	0.000260	1	0	0	0
289	Incident	4/5/2018 11:29:33 PM	0.000195	1	0	0	0
290	Incident	4/6/2018 1:57:19 AM	0.000390	1	0	0	0
291	Incident	4/6/2018 8:19:42 AM	0.000325	1	0	0	0
292	Incident	4/6/2018 3:37:55 PM	0.700	0	2	0	0
293	Incident	4/6/2018 10:58:28 PM	0.016	0	1	0	0
294	Incident	4/7/2018 3:13:40 AM	2.066	0	2	0	0
295	Incident	4/7/2018 3:14:30 AM	0.675	0	1	0	0
296	Incident	4/7/2018 9:19:51 AM	0.000325	1	0	0	0
297	Incident	4/7/2018 12:28:26 PM	0.000325	1	0	0	0
298	Incident	4/9/2018 4:31:32 PM	0.000650	1	0	0	0
299	Incident	4/9/2018 5:42:36 PM	0.000846	1	0	0	0
300	Incident	4/10/2018 7:33:21 AM	0.000325	1	0	0	0
301	Incident	4/12/2018 11:46:56 AM	0.325	0	1	0	0
302	Incident	4/12/2018 7:12:07 PM	0.034000	2	0	0	0
303	Incident	4/13/2018 12:58:07 PM	0.002409	1	0	0	0
304	Incident	4/14/2018 12:07:48 PM	0.002018	1	0	0	0
305	Incident	4/14/2018 2:09:23 PM	1.908000	1	1	0	0
306	Incident	4/14/2018 10:28:04 PM	0.016	0	1	0	0
307	Incident	4/15/2018 4:30:39 PM	0.000585	1	0	0	0
308	Incident	4/18/2018 2:06:28 PM	0.000455	1	0	0	0
309	Incident	4/18/2018 2:07:15 PM	0.016	0	1	0	0
310	Incident	4/18/2018 7:12:01 PM	0.016	0	1	0	0
311	Incident	4/19/2018 10:03:18 AM	0.001171	1	0	0	0
312	Incident	4/19/2018 11:08:02 AM	0.001041	1	0	0	0
313	Incident	4/19/2018 1:58:29 PM	0.000455	1	0	0	0
314	Incident	4/22/2018 12:24:05 AM	0.000130	1	0	0	0
315	Incident	4/23/2018 1:14:35 PM	0.001367	1	0	0	0
316	Incident	4/23/2018 7:11:51 PM	0.000325	1	0	0	0
317	Incident	4/24/2018 5:42:45 AM	0.000455	1	0	0	0
318	Incident	4/24/2018 2:24:31 PM	0.001888	1	0	0	0
319	Incident	4/24/2018 2:25:31 PM	0.000065	1	0	0	0
320	Incident	4/24/2018 8:56:10 PM	0.000195	1	0	0	0
321	Incident	4/25/2018 2:49:43 AM	0.000325	1	0	0	0
322	Incident	4/25/2018 1:27:07 PM	0.033000	2	0	0	0
323	Incident	4/25/2018 7:45:17 PM	0.000325	1	0	0	0
324	Incident	4/26/2018 6:21:49 AM	0.001822	1	0	0	0
325	Incident	4/26/2018 11:33:04 AM	0.001041	1	0	0	0

326	Incident	4/26/2018 1:24:43 PM	0.000781	1	0	0	0
327	Incident	4/26/2018 11:57:46 PM	0.002863	1	0	0	0
328	Incident	4/27/2018 10:54:20 AM	0.000976	1	0	0	0
329	Incident	4/27/2018 5:41:40 PM	0.016	0	1	0	0
330	Incident	4/28/2018 12:32:54 PM	0.002018	1	0	0	0
331	Incident	4/28/2018 6:48:40 PM	0.041	0	1	0	0
332	Incident	4/28/2018 9:15:27 PM	0.016	0	1	0	0
333	Incident	4/29/2018 10:18:41 AM	0.001366	1	0	0	0
334	Incident	4/29/2018 10:19:41 AM	0.000650	1	0	0	0
335	Incident	4/30/2018 2:18:26 PM	0.018000	2	0	0	0
336	Incident	5/1/2018 1:57:10 PM	0.000976	1	0	0	0
337	Incident	5/1/2018 1:58:05 PM	0.016	0	1	0	0
338	Incident	5/1/2018 6:36:12 PM	0.016	0	1	0	0
339	Incident	5/1/2018 9:22:42 PM	0.001041	1	0	0	0
340	Incident	5/1/2018 10:06:52 PM	0.000651	1	0	0	0
341	Incident	5/1/2018 11:44:34 PM	0.000390	1	0	0	0
342	Incident	5/2/2018 8:47:36 AM	0.000390	1	0	0	0
343	Incident	5/3/2018 9:07:56 AM	0.000781	1	0	0	0
344	Incident	5/3/2018 9:09:03 AM	0.016	0	1	0	0
345	Incident	5/3/2018 11:04:30 PM	0.016	0	1	0	0
346	Incident	5/4/2018 9:07:27 AM	0.000715	1	0	0	0
347	Incident	5/4/2018 9:08:30 AM	0.016	0	1	0	0
348	Incident	5/4/2018 7:18:11 PM	0.025	0	1	0	0
349	Incident	5/5/2018 1:08:07 AM	0.000325	1	0	0	0
350	Incident	5/5/2018 9:13:56 AM	0.000520	1	0	0	0
351	Incident	5/5/2018 9:14:37 AM	0.000455	1	0	0	0
352	Incident	5/5/2018 4:40:32 PM	0.016	0	1	0	0
353	Incident	5/6/2018 8:04:05 AM	0.000260	1	0	0	0
354	Incident	5/6/2018 10:41:59 AM	0.000651	1	0	0	0
355	Incident	5/6/2018 10:43:01 AM	0.001367	1	0	0	0
356	Incident	5/6/2018 12:50:49 PM	0.016	0	1	0	0
357	Incident	5/6/2018 12:56:06 PM	0.016	0	1	0	0
358	Incident	5/6/2018 6:54:05 PM	0.016	0	1	0	0
359	Incident	5/6/2018 9:44:08 PM	0.075	0	1	0	0
360	Incident	5/7/2018 9:43:16 AM	0.034000	2	0	0	0
361	Incident	5/8/2018 10:07:29 AM	0.001106	1	0	0	0
362	Incident	5/8/2018 10:07:54 AM	0.008	0	1	0	0
363	Incident	5/8/2018 12:46:12 PM	0.016	0	1	0	0
364	Incident	5/9/2018 12:04:07 AM	0.000520	1	0	0	0
365	Incident	5/9/2018 11:05:54 AM	0.000846	1	0	0	0
366	Incident	5/9/2018 1:43:22 PM	0.001431	1	0	0	0
367	Incident	5/10/2018 10:45:38 AM	0.001041	1	0	0	0
368	Incident	5/10/2018 10:46:39 AM	0.000195	1	0	0	0
369	Incident	5/10/2018 2:17:21 PM	0.001106	1	0	0	0
370	Incident	5/11/2018 9:43:10 AM	0.000846	1	0	0	0
371	Incident	5/11/2018 10:37:16 AM	0.001041	1	0	0	0
372	Incident	5/11/2018 10:38:19 AM	0.000260	1	0	0	0

373	Incident	5/11/2018 9:33:34 PM	0.000455	1	0	0	0
374	Incident	5/12/2018 8:38:53 AM	0.083	0	1	0	0
375	Incident	5/12/2018 12:42:34 PM	0.000976	1	0	0	0
376	Incident	5/13/2018 8:15:50 AM	0.000195	1	0	0	0
377	Incident	5/13/2018 3:11:44 PM	0.000455	1	0	0	0
378	Incident	5/13/2018 3:16:38 PM	0.000390	1	0	0	0
379	Incident	5/13/2018 3:17:38 PM	0.003385	1	0	0	0
380	Incident	5/13/2018 10:32:55 PM	0.016	0	1	0	0
381	Incident	5/14/2018 12:25:32 AM	0.000976	1	0	0	0
382	Incident	5/15/2018 1:39:32 PM	0.000976	1	0	0	0
383	Incident	5/15/2018 8:22:27 PM	0.016	0	1	0	0
384	Incident	5/15/2018 9:29:23 PM	0.001041	1	0	0	0
385	Incident	5/15/2018 10:09:30 PM	0.001041	1	0	0	0
386	Incident	5/16/2018 12:10:33 AM	0.000130	1	0	0	0
387	Incident	5/16/2018 5:49:56 AM	0.000325	1	0	0	0
388	Incident	5/16/2018 7:37:51 AM	0.066	0	1	0	0
389	Incident	5/16/2018 12:02:47 PM	0.000586	1	0	0	0
390	Incident	5/16/2018 4:55:16 PM	0.025	0	1	0	0
391	Incident	5/16/2018 9:57:57 PM	0.016	0	1	0	0
392	Incident	5/17/2018 1:31:50 PM	0.016	0	1	0	0
393	Incident	5/17/2018 7:14:52 PM	0.016	0	1	0	0
394	Incident	5/18/2018 12:37:54 AM	0.000260	1	0	0	0
395	Incident	5/18/2018 10:21:49 AM	0.016	0	1	0	0
396	Incident	5/18/2018 11:51:48 AM	0.002148	1	0	0	0
397	Incident	5/18/2018 1:58:16 PM	0.000780	1	0	0	0
398	Incident	5/18/2018 11:01:34 PM	0.000521	1	0	0	0
399	Incident	5/19/2018 9:19:29 AM	0.000065	1	0	0	0
400	Incident	5/19/2018 10:56:09 AM	0.000520	1	0	0	0
401	Incident	5/19/2018 5:06:55 PM	0.000716	1	0	0	0
402	Incident	5/20/2018 1:34:00 AM	0.002408	1	0	0	0
403	Incident	5/20/2018 8:38:36 AM	0.034	0	1	0	0
404	Incident	5/21/2018 6:02:36 AM	0.000325	1	0	0	0
405	Incident	5/21/2018 11:19:17 AM	0.017000	2	0	0	0
406	Incident	5/21/2018 6:11:58 PM	0.000651	1	0	0	0
407	Incident	5/22/2018 2:46:37 AM	0.000716	1	0	0	0
408	Incident	5/22/2018 5:47:00 AM	0.000260	1	0	0	0
409	Incident	5/22/2018 11:34:28 AM	0.034000	2	0	0	0
410	Incident	5/22/2018 11:35:28 AM	0.008	0	1	0	0
411	Incident	5/22/2018 11:42:36 AM	0.000325	1	0	0	0
412	Incident	5/22/2018 2:28:45 PM	16.738000	3	1	0	1
413	Incident	5/25/2018 1:04:37 AM	0.016	0	1	0	0
414	Incident	5/25/2018 1:42:42 AM	0.008	0	1	0	0
415	Incident	5/25/2018 8:30:18 AM	0.001432	1	0	0	0
416	Incident	5/25/2018 10:37:07 PM	0.000520	1	0	0	0
417	Incident	5/26/2018 7:15:13 AM	0.000325	1	0	0	0
418	Incident	5/26/2018 9:39:32 AM	0.001561	1	0	0	0
419	Incident	5/26/2018 1:43:01 PM	0.016	0	1	0	0

420	Incident	5/26/2018 4:58:59 PM	0.016	0	1	0	0
421	Incident	5/26/2018 11:04:09 PM	0.008	0	1	0	0
422	Incident	5/28/2018 11:05:58 AM	0.000846	1	0	0	0
423	Incident	5/28/2018 7:39:53 PM	0.049	0	1	0	0
424	Incident	5/29/2018 10:31:45 AM	0.001302	1	0	0	0
425	Incident	5/29/2018 4:30:02 PM	0.000065	1	0	0	0
426	Incident	5/29/2018 6:43:31 PM	0.016	0	1	0	0
427	Incident	5/31/2018 6:02:47 AM	0.000521	1	0	0	0
428	Incident	5/31/2018 9:19:32 AM	0.000195	1	0	0	0
429	Incident	5/31/2018 11:05:08 AM	0.001497	1	0	0	0
430	Incident	5/31/2018 11:06:17 AM	0.016	0	1	0	0
431	Incident	5/31/2018 12:51:27 PM	0.016	0	1	0	0
432	Incident	6/1/2018 6:08:23 AM	0.001301	1	0	0	0
433	Incident	6/1/2018 12:17:24 PM	0.001106	1	0	0	0
434	Incident	6/1/2018 4:51:28 PM	0.008	0	1	0	0
435	Incident	6/2/2018 9:20:01 AM	0.002149	1	0	0	0
436	Incident	6/2/2018 11:44:16 AM	0.016000	2	0	0	0
437	Incident	6/2/2018 6:17:56 PM	18.317000	1	4	0	0
438	Incident	6/2/2018 6:58:54 PM	0.016	0	1	0	0
439	Incident	6/3/2018 7:59:25 AM	0.016	0	1	0	0
440	Incident	6/3/2018 12:17:14 PM	0.000325	1	0	0	0
441	Incident	6/3/2018 12:17:35 PM	0.000325	1	0	0	0
442	Incident	6/3/2018 5:34:19 PM	0.002865	1	0	0	0
443	Incident	6/4/2018 2:25:13 AM	0.000260	1	0	0	0
444	Incident	6/4/2018 6:21:04 AM	0.002994	1	0	0	0
445	Incident	6/4/2018 8:10:50 AM	0.000520	1	0	0	0
446	Incident	6/4/2018 8:11:53 AM	0.016	0	1	0	0
447	Incident	6/4/2018 10:17:28 AM	0.000585	1	0	0	0
448	Incident	6/4/2018 6:00:58 PM	0.016	0	1	0	0
449	Incident	6/4/2018 10:13:22 PM	0.016	0	1	0	0
450	Incident	6/4/2018 11:29:02 PM	0.016	0	1	0	0
451	Incident	6/5/2018 2:00:41 AM	0.002082	1	0	0	0
452	Incident	6/5/2018 10:48:47 AM	0.000390	1	0	0	0
453	Incident	6/6/2018 3:53:32 PM	0.016	0	1	0	0
454	Incident	6/6/2018 10:52:24 PM	0.016	0	1	0	0
455	Incident	6/7/2018 5:47:28 AM	0.000325	1	0	0	0
456	Incident	6/7/2018 9:49:17 AM	0.000651	1	0	0	0
457	Incident	6/7/2018 10:59:55 AM	0.050	0	1	0	0
458	Incident	6/7/2018 4:47:25 PM	0.000455	1	0	0	0
459	Incident	6/7/2018 7:06:46 PM	0.016	0	1	0	0
460	Incident	6/7/2018 9:02:38 PM	0.016	0	1	0	0
461	Incident	6/8/2018 2:18:57 PM	0.000260	1	0	0	0
462	Incident	6/8/2018 6:37:18 PM	0.000260	1	0	0	0
463	Incident	6/8/2018 10:50:17 PM	0.000130	1	0	0	0
464	Incident	6/8/2018 11:33:08 PM	0.017	0	1	0	0
465	Incident	6/9/2018 10:41:18 AM	0.001627	1	0	0	0
466	Incident	6/10/2018 1:29:04 PM	0.001562	1	0	0	0

467	Incident	6/10/2018 6:51:39 PM	0.016	0	1	0	0
468	Incident	6/11/2018 9:50:52 AM	0.000325	1	0	0	0
469	Incident	6/11/2018 9:51:55 AM	0.003841	1	0	0	0
470	Incident	6/11/2018 11:57:24 AM	0.000260	1	0	0	0
471	Incident	6/11/2018 3:47:56 PM	0.101	0	1	0	0
472	Incident	6/11/2018 11:35:45 PM	0.000195	1	0	0	0
473	Incident	6/12/2018 5:48:33 AM	0.001627	1	0	0	0
474	Incident	6/12/2018 10:53:21 AM	0.000520	1	0	0	0
475	Incident	6/12/2018 9:55:22 PM	0.016	0	1	0	0
476	Incident	6/13/2018 11:50:51 AM	0.016	0	1	0	0
477	Incident	6/13/2018 11:57:23 AM	0.000585	1	0	0	0
478	Incident	6/13/2018 8:13:22 PM	0.016	0	1	0	0
479	Incident	6/14/2018 8:38:32 AM	0.016	0	1	0	0
480	Incident	6/14/2018 12:37:17 PM	1.917000	1	1	0	0
481	Incident	6/14/2018 12:46:24 PM	0.000455	1	0	0	0
482	Incident	6/14/2018 4:53:58 PM	0.000455	1	0	0	0
483	Incident	6/14/2018 8:12:50 PM	0.002473	1	0	0	0
484	Incident	6/15/2018 12:08:38 AM	0.000130	1	0	0	0
485	Incident	6/15/2018 10:02:01 AM	0.000455	1	0	0	0
486	Incident	6/15/2018 10:15:56 AM	0.000065	1	0	0	0
487	Incident	6/15/2018 4:44:43 PM	0.016	0	1	0	0
488	Incident	6/15/2018 9:16:03 PM	0.016	0	1	0	0
489	Incident	6/16/2018 10:38:35 AM	0.001106	1	0	0	0
490	Incident	6/16/2018 4:32:57 PM	0.016	0	1	0	0
491	Incident	6/16/2018 5:04:40 PM	0.016	0	1	0	0
492	Incident	6/17/2018 12:02:42 PM	0.000585	1	0	0	0
493	Incident	6/17/2018 9:10:51 PM	0.016	0	1	0	0
494	Incident	6/18/2018 9:01:50 AM	0.002148	1	0	0	0
495	Incident	6/18/2018 6:08:53 PM	0.016	0	1	0	0
496	Incident	6/18/2018 10:40:48 PM	0.016	0	1	0	0
497	Incident	6/18/2018 11:22:53 PM	0.000976	1	0	0	0
498	Incident	6/19/2018 12:08:13 AM	0.016	0	1	0	0
499	Incident	6/19/2018 12:53:29 AM	0.000455	1	0	0	0
500	Incident	6/19/2018 8:15:56 AM	0.002343	1	0	0	0
501	Incident	6/19/2018 4:07:06 PM	0.016	0	1	0	0
502	Incident	6/19/2018 4:25:15 PM	0.016	0	1	0	0
503	Incident	6/19/2018 4:42:14 PM	1.975	0	2	0	0
504	Incident	6/19/2018 5:40:30 PM	0.016	0	1	0	0
505	Incident	6/20/2018 10:31:00 AM	0.000520	1	0	0	0
506	Incident	6/21/2018 10:31:29 AM	0.001431	1	0	0	0
507	Incident	6/21/2018 10:33:58 AM	0.016	0	1	0	0
508	Incident	6/22/2018 11:19:57 AM	0.001822	1	0	0	0
509	Incident	6/22/2018 9:57:56 PM	0.016	0	1	0	0
510	Incident	6/22/2018 10:51:53 PM	0.016	0	1	0	0
511	Incident	6/23/2018 9:54:53 AM	0.000781	1	0	0	0
512	Incident	6/23/2018 10:04:27 AM	0.000325	1	0	0	0
513	Incident	6/23/2018 11:01:25 PM	0.000390	1	0	0	0

514	Incident	6/24/2018 8:40:04 AM	0.001887	1	0	0	0
515	Incident	6/24/2018 10:39:43 AM	0.000390	1	0	0	0
516	Incident	6/25/2018 11:28:32 AM	0.001172	1	0	0	0
517	Incident	6/25/2018 11:29:39 AM	0.016	0	1	0	0
518	Incident	6/26/2018 10:38:52 AM	0.001692	1	0	0	0
519	Incident	6/26/2018 10:39:54 AM	0.016	0	1	0	0
520	Incident	6/26/2018 12:05:50 PM	0.000650	1	0	0	0
521	Incident	6/26/2018 3:02:33 PM	1.102000	1	1	0	0
522	Incident	6/26/2018 3:03:09 PM	0.491	0	1	0	0
523	Incident	6/26/2018 4:02:29 PM	0.000195	1	0	0	0
524	Incident	6/27/2018 10:01:53 AM	12.133000	2	0	0	0
525	Incident	6/27/2018 6:03:13 PM	0.016	0	1	0	0
526	Incident	6/28/2018 11:41:26 AM	10.101000	2	0	0	0
527	Incident	6/28/2018 11:42:29 AM	0.016	0	1	0	0
528	Incident	6/28/2018 1:32:30 PM	0.000260	1	0	0	0
529	Incident	6/28/2018 4:32:47 PM	0.016	0	1	0	0
530	Incident	6/29/2018 9:52:55 AM	0.001431	1	0	0	0
531	Incident	6/29/2018 11:34:11 PM	0.000260	1	0	0	0
532	Incident	6/30/2018 12:39:51 AM	0.000390	1	0	0	0
533	Incident	6/30/2018 3:00:02 AM	0.000130	1	0	0	0
534	Incident	6/30/2018 11:32:43 AM	0.001302	1	0	0	0
535	Incident	7/1/2018 3:03:40 AM	0.000911	1	0	0	0
536	Incident	7/1/2018 10:34:36 AM	0.000520	1	0	0	0
537	Incident	7/1/2018 10:35:37 AM	0.016	0	1	0	0
538	Incident	7/1/2018 10:36:40 AM	0.016	0	1	0	0
539	Incident	7/1/2018 12:33:46 PM	0.000976	1	0	0	0
540	Incident	7/1/2018 7:03:31 PM	0.016	0	1	0	0
541	Incident	7/1/2018 10:24:54 PM	0.016	0	1	0	0
542	Incident	7/2/2018 10:30:55 AM	0.001953	1	0	0	0
543	Incident	7/2/2018 10:31:48 AM	0.000976	1	0	0	0
544	Incident	7/3/2018 9:22:12 AM	0.001237	1	0	0	0
545	Incident	7/3/2018 1:21:28 PM	0.000325	1	0	0	0
546	Incident	7/3/2018 2:14:23 PM	0.000130	1	0	0	0
547	Incident	7/4/2018 9:51:35 AM	0.001236	1	0	0	0
548	Incident	7/4/2018 12:01:52 PM	0.018000	2	0	0	0
549	Incident	7/4/2018 1:52:49 PM	0.000976	1	0	0	0
550	Incident	7/4/2018 1:53:49 PM	0.002865	1	0	0	0
551	Incident	7/5/2018 12:13:24 AM	0.000260	1	0	0	0
552	Incident	7/5/2018 6:45:58 AM	2.334	0	2	0	0
553	Incident	7/5/2018 9:04:00 AM	0.002214	1	0	0	0
554	Incident	7/5/2018 9:05:01 AM	0.001172	1	0	0	0
555	Incident	7/5/2018 1:57:38 PM	0.000585	1	0	0	0
556	Incident	7/5/2018 6:29:07 PM	1.957	0	2	0	0
557	Incident	7/6/2018 8:45:05 AM	0.002343	1	0	0	0
558	Incident	7/6/2018 8:52:50 PM	0.000520	1	0	0	0
559	Incident	7/8/2018 11:25:33 AM	14.317000	2	0	0	0
560	Incident	7/9/2018 12:14:05 PM	0.002148	1	0	0	0

561	Incident	7/9/2018 7:37:17 PM	0.016	0	1	0	0
562	Incident	7/10/2018 9:30:23 AM	0.000325	1	0	0	0
563	Incident	7/10/2018 1:39:09 PM	0.000977	1	0	0	0
564	Incident	7/10/2018 1:40:00 PM	0.016	0	1	0	0
565	Incident	7/10/2018 7:22:48 PM	1.958	0	2	0	0
566	Incident	7/11/2018 9:09:43 AM	0.000846	1	0	0	0
567	Incident	7/11/2018 9:10:36 AM	0.000455	1	0	0	0
568	Incident	7/11/2018 11:32:48 AM	0.000651	1	0	0	0
569	Incident	7/11/2018 1:28:48 PM	0.001953	1	0	0	0
570	Incident	7/11/2018 9:40:50 PM	0.016	0	1	0	0
571	Incident	7/12/2018 12:57:41 AM	0.000130	1	0	0	0
572	Incident	7/12/2018 10:59:42 AM	0.016	0	1	0	0
573	Incident	7/12/2018 5:04:42 PM	0.016	0	1	0	0
574	Incident	7/14/2018 5:53:57 PM	0.016	0	1	0	0
575	Incident	7/16/2018 8:11:22 AM	0.000585	1	0	0	0
576	Incident	7/16/2018 10:25:19 AM	0.016	0	1	0	0
577	Incident	7/16/2018 5:43:35 PM	0.016	0	1	0	0
578	Incident	7/17/2018 3:02:04 AM	0.000585	1	0	0	0
579	Incident	7/17/2018 8:33:18 AM	0.001106	1	0	0	0
580	Incident	7/17/2018 1:17:28 PM	0.000781	1	0	0	0
581	Incident	7/17/2018 1:32:16 PM	0.016	0	1	0	0
582	Incident	7/17/2018 11:08:45 PM	0.016	0	1	0	0
583	Incident	7/18/2018 2:39:52 PM	0.016	0	1	0	0
584	Incident	7/19/2018 12:15:48 AM	0.016	0	1	0	0
585	Incident	7/19/2018 3:58:54 PM	0.000520	1	0	0	0
586	Incident	7/20/2018 3:25:08 AM	0.000390	1	0	0	0
587	Incident	7/20/2018 10:33:37 AM	0.001236	1	0	0	0
588	Incident	7/20/2018 10:35:58 AM	0.000716	1	0	0	0
589	Incident	7/20/2018 2:37:41 PM	0.000130	1	0	0	0
590	Incident	7/21/2018 10:32:32 AM	0.000585	1	0	0	0
591	Incident	7/21/2018 12:27:41 PM	0.000065	1	0	0	0
592	Incident	7/21/2018 2:15:44 PM	0.083	0	1	0	0
593	Incident	7/21/2018 2:47:09 PM	0.291	0	1	0	0
594	Incident	7/21/2018 3:27:01 PM	0.001367	1	0	0	0
595	Incident	7/21/2018 4:45:23 PM	18.617000	1	5	0	0
596	Incident	7/21/2018 4:46:10 PM	1.067	0	2	0	0
597	Incident	7/21/2018 5:21:19 PM	0.133	0	1	0	0
598	Incident	7/21/2018 10:27:08 PM	0.000911	1	0	0	0
599	Incident	7/22/2018 9:40:51 AM	0.000846	1	0	0	0
600	Incident	7/22/2018 1:20:07 PM	0.016	0	1	0	0
601	Incident	7/23/2018 6:11:49 AM	0.000390	1	0	0	0
602	Incident	7/23/2018 2:02:04 PM	0.000325	1	0	0	0
603	Incident	7/23/2018 5:06:30 PM	0.017	0	1	0	0
604	Incident	7/23/2018 6:32:35 PM	0.002603	1	0	0	0
605	Incident	7/24/2018 11:31:59 AM	0.001757	1	0	0	0
606	Incident	7/25/2018 2:12:21 AM	0.000260	1	0	0	0
607	Incident	7/25/2018 7:35:48 AM	0.001627	1	0	0	0

608	Incident	7/25/2018 10:27:44 AM	0.016	0	1	0	0
609	Incident	7/26/2018 9:09:15 AM	0.000781	1	0	0	0
610	Incident	7/26/2018 9:10:15 AM	0.016	0	1	0	0
611	Incident	7/26/2018 10:35:32 AM	0.000455	1	0	0	0
612	Incident	7/27/2018 12:03:52 AM	0.016	0	1	0	0
613	Incident	7/27/2018 10:59:21 AM	0.001366	1	0	0	0
614	Incident	7/27/2018 11:00:22 AM	0.016	0	1	0	0
615	Incident	7/28/2018 11:18:55 AM	0.000260	1	0	0	0
616	Incident	7/28/2018 12:42:19 PM	0.000390	1	0	0	0
617	Incident	7/28/2018 6:34:34 PM	1.975000	1	1	0	0
618	Incident	7/28/2018 7:21:11 PM	0.001952	1	0	0	0
619	Incident	7/29/2018 9:57:41 AM	0.016	0	1	0	0
620	Incident	7/29/2018 1:42:33 PM	0.001692	1	0	0	0
621	Incident	7/29/2018 1:44:43 PM	0.016	0	1	0	0
622	Incident	7/29/2018 5:49:10 PM	0.002864	1	0	0	0
623	Incident	7/29/2018 7:47:29 PM	0.016	0	1	0	0
624	Incident	7/30/2018 7:34:43 AM	0.001756	1	0	0	0
625	Incident	7/30/2018 10:45:05 AM	0.000195	1	0	0	0
626	Incident	7/31/2018 11:25:00 AM	0.001887	1	0	0	0
627	Incident	7/31/2018 3:25:42 PM	0.016	0	1	0	0
628	Incident	7/31/2018 3:58:12 PM	0.099	0	1	0	0
629	Incident	8/1/2018 10:41:24 AM	0.000325	1	0	0	0
630	Incident	8/1/2018 10:43:02 AM	0.000260	1	0	0	0
631	Incident	8/1/2018 4:51:14 PM	0.016	0	1	0	0
632	Incident	8/1/2018 6:21:11 PM	0.083	0	1	0	0
633	Incident	8/2/2018 9:16:09 AM	0.001563	1	0	0	0
634	Incident	8/2/2018 12:22:37 PM	0.000195	1	0	0	0
635	Incident	8/2/2018 5:47:25 PM	0.002603	1	0	0	0
636	Incident	8/3/2018 1:49:58 AM	0.000911	1	0	0	0
637	Incident	8/3/2018 9:55:43 AM	0.001237	1	0	0	0
638	Incident	8/3/2018 10:28:59 AM	0.000781	1	0	0	0
639	Incident	8/3/2018 7:05:10 PM	0.000260	1	0	0	0
640	Incident	8/3/2018 7:32:17 PM	0.000195	1	0	0	0
641	Incident	8/4/2018 9:03:34 AM	0.000585	1	0	0	0
642	Incident	8/4/2018 12:07:18 PM	0.000651	1	0	0	0
643	Incident	8/5/2018 7:59:48 AM	0.000455	1	0	0	0
644	Incident	8/5/2018 11:27:10 AM	0.017000	2	0	0	0
645	Incident	8/5/2018 8:24:59 PM	0.016	0	1	0	0
646	Incident	8/5/2018 9:39:01 PM	0.016	0	1	0	0
647	Incident	8/5/2018 10:10:12 PM	0.000520	1	0	0	0
648	Incident	8/5/2018 10:36:54 PM	0.016	0	1	0	0
649	Incident	8/6/2018 6:35:06 AM	0.000260	1	0	0	0
650	Incident	8/6/2018 9:49:10 AM	0.001432	1	0	0	0
651	Incident	8/6/2018 9:57:21 PM	0.000260	1	0	0	0
652	Incident	8/7/2018 8:59:57 AM	0.018000	2	0	0	0
653	Incident	8/7/2018 12:58:07 PM	0.016	0	1	0	0
654	Incident	8/7/2018 3:47:02 PM	0.000520	1	0	0	0

655	Incident	8/8/2018 10:17:02 AM	0.001367	1	0	0	0
656	Incident	8/8/2018 10:18:03 AM	0.000390	1	0	0	0
657	Incident	8/8/2018 6:09:46 PM	0.016	0	1	0	0
658	Incident	8/8/2018 6:48:05 PM	0.016	0	1	0	0
659	Incident	8/9/2018 10:12:48 AM	0.001823	1	0	0	0
660	Incident	8/9/2018 10:13:34 AM	0.016	0	1	0	0
661	Incident	8/9/2018 1:07:07 PM	0.016	0	1	0	0
662	Incident	8/10/2018 1:17:58 AM	0.000781	1	0	0	0
663	Incident	8/10/2018 10:05:36 AM	0.000520	1	0	0	0
664	Incident	8/11/2018 9:11:18 AM	0.000651	1	0	0	0
665	Incident	8/11/2018 9:12:21 AM	1.900000	1	1	0	0
666	Incident	8/11/2018 8:09:54 PM	0.016	0	1	0	0
667	Incident	8/11/2018 8:55:40 PM	0.016	0	1	0	0
668	Incident	8/11/2018 10:25:31 PM	0.016	0	1	0	0
669	Incident	8/12/2018 9:47:13 AM	0.000781	1	0	0	0
670	Incident	8/12/2018 10:52:32 AM	0.000650	1	0	0	0
671	Incident	8/12/2018 6:45:58 PM	0.016	0	1	0	0
672	Incident	8/13/2018 9:51:36 AM	0.016	0	1	0	0
673	Incident	8/13/2018 10:41:49 AM	0.000976	1	0	0	0
674	Incident	8/13/2018 10:00:44 PM	0.000195	1	0	0	0
675	Incident	8/14/2018 9:28:03 AM	0.001692	1	0	0	0
676	Incident	8/14/2018 9:28:39 AM	0.016	0	1	0	0
677	Incident	8/14/2018 9:31:29 AM	0.016	0	1	0	0
678	Incident	8/15/2018 9:39:54 AM	0.000911	1	0	0	0
679	Incident	8/15/2018 9:40:56 AM	0.016	0	1	0	0
680	Incident	8/15/2018 5:47:59 PM	0.016	0	1	0	0
681	Incident	8/15/2018 10:09:15 PM	0.016	0	1	0	0
682	Incident	8/16/2018 6:10:12 AM	0.002344	1	0	0	0
683	Incident	8/16/2018 7:20:28 PM	0.017	0	1	0	0
684	Incident	8/16/2018 11:16:53 PM	0.008	0	1	0	0
685	Incident	8/17/2018 9:07:52 AM	0.001302	1	0	0	0
686	Incident	8/17/2018 12:21:06 PM	0.016	0	1	0	0
687	Incident	8/17/2018 9:14:52 PM	0.001041	1	0	0	0
688	Incident	8/18/2018 4:11:15 AM	0.002212	1	0	0	0
689	Incident	8/18/2018 10:59:59 AM	0.019000	2	0	0	0
690	Incident	8/18/2018 12:05:18 PM	0.000325	1	0	0	0
691	Incident	8/19/2018 9:04:59 AM	0.001237	1	0	0	0
692	Incident	8/19/2018 10:26:38 AM	0.000585	1	0	0	0
693	Incident	8/19/2018 10:27:24 AM	0.000520	1	0	0	0
694	Incident	8/19/2018 9:03:24 PM	0.016	0	1	0	0
695	Incident	8/20/2018 8:35:06 AM	0.000846	1	0	0	0
696	Incident	8/20/2018 11:13:05 AM	0.000585	1	0	0	0
697	Incident	8/20/2018 2:16:45 PM	0.000651	1	0	0	0
698	Incident	8/20/2018 5:24:44 PM	1.297000	1	1	0	0
699	Incident	8/21/2018 9:45:28 AM	0.016	0	1	0	0
700	Incident	8/21/2018 11:30:49 AM	0.016	0	1	0	0
701	Incident	8/21/2018 12:11:44 PM	0.000520	1	0	0	0

702	Incident	8/21/2018 3:27:57 PM	0.016	0	1	0	0
703	Incident	8/22/2018 9:23:38 AM	0.000976	1	0	0	0
704	Incident	8/22/2018 9:24:39 AM	0.016	0	1	0	0
705	Incident	8/22/2018 4:24:14 PM	0.016	0	1	0	0
706	Incident	8/22/2018 4:36:04 PM	0.000195	1	0	0	0
707	Incident	8/23/2018 11:11:39 AM	0.000260	1	0	0	0
708	Incident	8/23/2018 7:22:49 PM	0.016	0	1	0	0
709	Incident	8/23/2018 10:22:58 PM	0.016	0	1	0	0
710	Incident	8/24/2018 9:47:51 AM	0.000715	1	0	0	0
711	Incident	8/24/2018 9:48:53 AM	0.016	0	1	0	0
712	Incident	8/24/2018 9:49:54 AM	0.000325	1	0	0	0
713	Incident	8/24/2018 6:53:07 PM	0.000585	1	0	0	0
714	Incident	8/24/2018 11:19:02 PM	0.016	0	1	0	0
715	Incident	8/25/2018 10:32:13 AM	0.001367	1	0	0	0
716	Incident	8/26/2018 12:01:06 AM	0.000521	1	0	0	0
717	Incident	8/26/2018 9:27:27 AM	0.016000	2	0	0	0
718	Incident	8/26/2018 6:17:12 PM	0.016	0	1	0	0
719	Incident	8/26/2018 7:00:00 PM	0.016	0	1	0	0
720	Incident	8/26/2018 11:51:28 PM	0.000065	1	0	0	0
721	Incident	8/27/2018 9:00:59 AM	0.001171	1	0	0	0
722	Incident	8/27/2018 9:49:01 AM	0.000390	1	0	0	0
723	Incident	8/27/2018 11:30:19 AM	0.000651	1	0	0	0
724	Incident	8/27/2018 11:34:20 PM	0.000651	1	0	0	0
725	Incident	8/28/2018 2:23:50 PM	0.000455	1	0	0	0
726	Incident	8/28/2018 3:23:20 PM	0.000520	1	0	0	0
727	Incident	8/29/2018 10:36:22 AM	0.001627	1	0	0	0
728	Incident	8/29/2018 8:37:51 PM	0.016	0	1	0	0
729	Incident	8/30/2018 10:27:15 AM	0.001367	1	0	0	0
730	Incident	8/30/2018 12:17:52 PM	0.016	0	1	0	0
731	Incident	8/30/2018 12:45:04 PM	0.000846	1	0	0	0
732	Incident	8/30/2018 12:46:12 PM	0.016	0	1	0	0
733	Incident	8/31/2018 9:17:25 AM	0.001627	1	0	0	0
734	Incident	8/31/2018 11:04:20 AM	0.016	0	1	0	0
735	Incident	8/31/2018 1:27:52 PM	0.000130	1	0	0	0
736	Incident	8/31/2018 6:36:03 PM	0.016	0	1	0	0
737	Incident	8/31/2018 7:51:47 PM	0.016	0	1	0	0
738	Incident	9/1/2018 12:25:54 AM	0.016	0	1	0	0
739	Incident	9/1/2018 10:25:23 AM	0.000455	1	0	0	0
740	Incident	9/1/2018 11:24:08 AM	0.000651	1	0	0	0
741	Incident	9/1/2018 7:04:42 PM	0.016	0	1	0	0
742	Incident	9/1/2018 10:27:45 PM	0.016	0	1	0	0
743	Incident	9/2/2018 10:51:35 AM	0.001236	1	0	0	0
744	Incident	9/3/2018 9:53:26 AM	0.001171	1	0	0	0
745	Incident	9/3/2018 1:11:53 PM	0.000846	1	0	0	0
746	Incident	9/4/2018 9:23:29 AM	0.000325	1	0	0	0
747	Incident	9/4/2018 10:50:39 AM	10.234000	2	0	0	0
748	Incident	9/4/2018 6:14:22 PM	0.000455	1	0	0	0

749	Incident	9/4/2018 10:42:57 PM	0.000195	1	0	0	0
750	Incident	9/6/2018 8:30:16 AM	0.016	0	1	0	0
751	Incident	9/6/2018 9:27:48 AM	0.000520	1	0	0	0
752	Incident	9/6/2018 9:28:49 AM	0.000130	1	0	0	0
753	Incident	9/6/2018 10:32:32 AM	0.016	0	1	0	0
754	Incident	9/7/2018 9:01:36 AM	0.000390	1	0	0	0
755	Incident	9/7/2018 11:30:55 AM	0.001822	1	0	0	0
756	Incident	9/7/2018 11:31:58 AM	0.016	0	1	0	0
757	Incident	9/7/2018 7:34:08 PM	0.017	0	1	0	0
758	Incident	9/8/2018 10:30:27 AM	0.000911	1	0	0	0
759	Incident	9/9/2018 11:44:21 AM	0.001367	1	0	0	0
760	Incident	9/9/2018 8:23:08 PM	0.016	0	1	0	0
761	Incident	9/10/2018 10:11:33 AM	0.001692	1	0	0	0
762	Incident	9/10/2018 6:07:33 PM	0.016	0	1	0	0
763	Incident	9/10/2018 7:53:17 PM	0.051	0	1	0	0
764	Incident	9/10/2018 10:00:00 PM	0.016	0	1	0	0
765	Incident	9/11/2018 9:37:05 AM	0.000716	1	0	0	0
766	Incident	9/11/2018 9:37:53 AM	0.004361	1	0	0	0
767	Incident	9/11/2018 9:38:57 AM	0.016	0	1	0	0
768	Incident	9/11/2018 9:39:59 AM	0.000065	1	0	0	0
769	Incident	9/12/2018 7:15:03 AM	0.001562	1	0	0	0
770	Incident	9/12/2018 10:02:33 AM	0.000651	1	0	0	0
771	Incident	9/12/2018 10:03:36 AM	0.016	0	1	0	0
772	Incident	9/12/2018 10:05:56 AM	0.016	0	1	0	0
773	Incident	9/12/2018 6:56:21 PM	0.016	0	1	0	0
774	Incident	9/13/2018 7:10:33 AM	0.000585	1	0	0	0
775	Incident	9/13/2018 7:11:40 AM	0.000260	1	0	0	0
776	Incident	9/13/2018 11:44:51 AM	0.000586	1	0	0	0
777	Incident	9/13/2018 11:45:53 AM	0.000390	1	0	0	0
778	Incident	9/13/2018 7:07:41 PM	0.016	0	1	0	0
779	Incident	9/14/2018 7:00:34 AM	0.001367	1	0	0	0
780	Incident	9/14/2018 9:00:47 AM	0.002343	1	0	0	0
781	Incident	9/14/2018 9:57:19 AM	0.016	0	1	0	0
782	Incident	9/14/2018 11:00:40 AM	0.058	0	1	0	0
783	Incident	9/15/2018 11:58:16 AM	0.000325	1	0	0	0
784	Incident	9/15/2018 9:06:43 PM	0.016	0	1	0	0
785	Incident	9/15/2018 11:04:13 PM	0.016	0	1	0	0
786	Incident	9/16/2018 9:40:14 AM	0.000651	1	0	0	0
787	Incident	9/16/2018 9:42:43 AM	0.016	0	1	0	0
788	Incident	9/16/2018 7:20:23 PM	0.017	0	1	0	0
789	Incident	9/17/2018 1:33:33 AM	0.000260	1	0	0	0
790	Incident	9/17/2018 1:33:22 PM	0.000390	1	0	0	0
791	Incident	9/18/2018 2:14:56 AM	0.002018	1	0	0	0
792	Incident	9/18/2018 8:26:04 AM	0.016	0	1	0	0
793	Incident	9/18/2018 9:11:42 AM	0.000585	1	0	0	0
794	Incident	9/18/2018 7:22:06 PM	0.016	0	1	0	0
795	Incident	9/19/2018 5:45:30 AM	0.024	0	1	0	0

796	Incident	9/19/2018 11:33:13 AM	0.000455	1	0	0	0
797	Incident	9/19/2018 10:39:00 PM	0.016	0	1	0	0
798	Incident	9/20/2018 10:27:28 AM	0.002343	1	0	0	0
799	Incident	9/21/2018 9:43:30 AM	10.284000	2	0	0	0
800	Incident	9/21/2018 9:44:31 AM	0.008	0	1	0	0
801	Incident	9/21/2018 12:14:33 PM	0.016	0	1	0	0
802	Incident	9/21/2018 7:25:48 PM	0.016	0	1	0	0
803	Incident	9/21/2018 11:31:12 PM	0.000065	1	0	0	0
804	Incident	9/22/2018 11:16:16 AM	0.016	0	1	0	0
805	Incident	9/22/2018 2:45:21 PM	0.000260	1	0	0	0
806	Incident	9/22/2018 9:29:16 PM	0.000390	1	0	0	0
807	Incident	9/22/2018 10:36:23 PM	0.016	0	1	0	0
808	Incident	9/23/2018 1:08:36 AM	0.002083	1	0	0	0
809	Incident	9/23/2018 8:28:20 AM	0.001106	1	0	0	0
810	Incident	9/23/2018 10:32:35 AM	0.016	0	1	0	0
811	Incident	9/23/2018 7:11:53 PM	0.016	0	1	0	0
812	Incident	9/24/2018 12:50:37 AM	0.001041	1	0	0	0
813	Incident	9/24/2018 6:29:44 AM	0.016	0	1	0	0
814	Incident	9/24/2018 10:17:49 AM	0.000585	1	0	0	0
815	Incident	9/24/2018 7:24:47 PM	0.016	0	1	0	0
816	Incident	9/24/2018 10:14:00 PM	0.000976	1	0	0	0
817	Incident	9/25/2018 9:09:26 AM	0.000585	1	0	0	0
818	Incident	9/26/2018 10:21:57 AM	0.000716	1	0	0	0
819	Incident	9/26/2018 10:07:44 PM	0.016	0	1	0	0
820	Incident	9/27/2018 12:23:39 PM	0.001172	1	0	0	0
821	Incident	9/28/2018 7:40:10 AM	0.000585	1	0	0	0
822	Incident	9/28/2018 9:01:54 AM	0.000455	1	0	0	0
823	Incident	9/28/2018 5:49:52 PM	0.016	0	1	0	0
824	Incident	9/28/2018 7:04:17 PM	0.016	0	1	0	0
825	Incident	9/28/2018 10:09:12 PM	0.001627	1	0	0	0
826	Incident	9/29/2018 8:41:00 AM	0.001041	1	0	0	0
827	Incident	9/30/2018 9:36:21 AM	0.001106	1	0	0	0
828	Incident	9/30/2018 11:41:34 AM	0.000260	1	0	0	0
829	Incident	9/30/2018 1:10:59 PM	0.016	0	1	0	0

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Attachment 4
Catalog Cutsheet

S&C TripSaver® II

Cutout-Mounted Recloser

For enhanced lateral circuit protection
at 15 kV and 25 kV

Introducing S&C's new TripSaver II Cutout-Mounted Recloser:

A better solution for overhead lateral circuit protection at 15 kV and 25 kV

Conventional lateral circuit protection requires some concessions

Over 90% of temporary faults on overhead distribution circuits occur on laterals. Over the years, utilities have dealt with lateral protection a couple of ways.

Some utilities employ a "fuse blowing" philosophy: The substation feeder breaker is properly coordinated with the lateral fuse, so that the fuse will clear any downstream fault within its rating . . . not the breaker.

The problem: Service to customers on the lateral is permanently interrupted—even for a temporary fault—as shown in Figure 1. And the utility must deal with the high cost of service calls to replace lateral fuses.

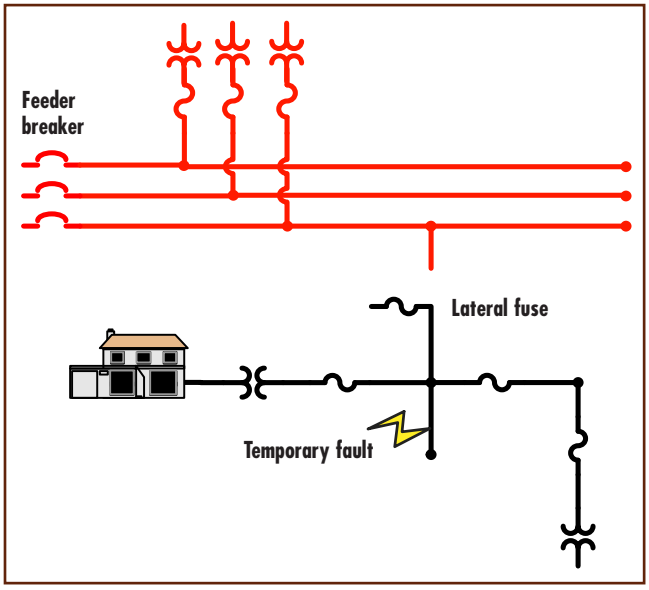

Figure 1. "Fuse blowing" philosophy.

Other utilities employ a "fuse saving" philosophy: The first trip of the substation feeder breaker is intentionally miscoordinated so that the breaker operates faster than the lateral fuse to clear a fault downstream of the lateral fuse. The second trip of the breaker is slower so that if the fault is still present, the lateral fuse will operate to clear it.

The problem: All customers on the feeder experience a momentary interruption for all faults—as shown in Figure 2.

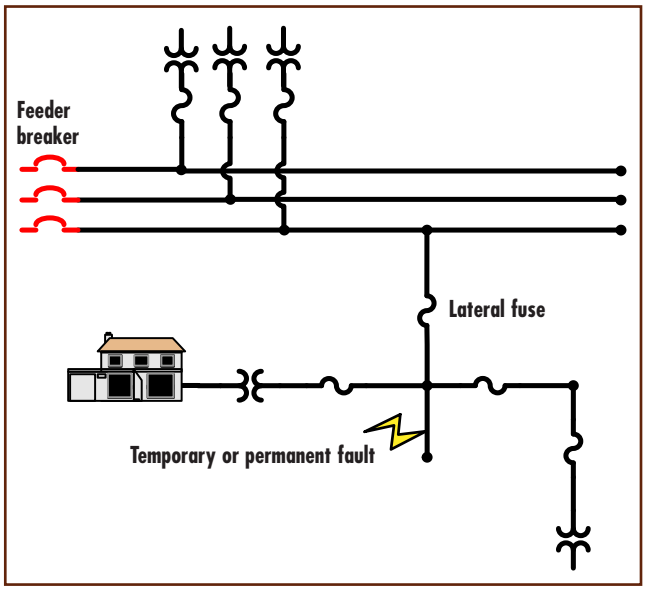

Figure 2. "Fuse saving" philosophy.

TripSaver II provides better lateral protection

S&C's new TripSaver II Cutout-Mounted Recloser eliminates these problems. It's ideally suited for protection of laterals that experience frequent temporary faults. This self-powered, electronically controlled, single-phase vacuum fault interrupter is available for installation in new or existing current-production ("-R10" or "-R11") S&C or MacLean Power Systems Type XS Fuse Cutout Mountings. A two-insulator, branch-feeder style mounting is also available.

TripSaver II eliminates the permanent outage which results when the lateral fuse operates in response to a temporary fault. Utilities using "fuse blowing" will see an improvement in SAIFI without sacrificing MAIFI.

And TripSaver II eliminates the momentary interruption on the feeder in instances where the breaker is tripped to save the lateral fuse during a temporary fault. Utilities using "fuse saving" will see an improvement in MAIFI without sacrificing SAIFI.

TripSaver II has been tested to, and is in compliance with, IEEE Standards C37.60-2012 and C37.41-2008 and IEC Standard 62271-111. TripSaver II is manufactured in accordance with a quality system certified to ISO 9001:2000.

As shown in the following table, TripSaver II offers a number of advantages over traditional lateral protective devices.

Comparison of Lateral Protective Devices

Feature/Benefit	Single-Phase Hydraulic Recloser	Dropout-Style Electronic Sectionalizer	TripSaver II
Easy to install		✓	✓
Low initial price		✓	✓
Low installation cost		✓	✓
Fault-interrupting capability	✓		✓
Easy to reset	✓		✓
Electronic control		✓	✓
No bypass switch required		✓	✓
Light weight compared to oil reclosers		✓	✓
No battery backup required		✓	✓
Fits in cutout mounting		✓	✓
No momentary outage on the main feeder for lateral faults	✓		✓

TripSaver II's operating sequence

TripSaver II supports up to three reclosing operations (four tripping operations in total) before it drops open. A wide variety of time-current characteristic (TCC) curves are available. The open interval between tripping operations is five seconds.

The vacuum interrupter resets two seconds after TripSaver II drops open. The operator can then reclose TripSaver II into the mounting.

In instances in which a temporary fault is cleared before TripSaver II reaches the end of its operating sequence, TripSaver II will revert to its first TCC curve, i.e., reset after 15 seconds have elapsed since the last reclosing operation.

How TripSaver II works for a temporary fault

Consider a temporary fault downstream of TripSaver II, as shown in Figure 3.

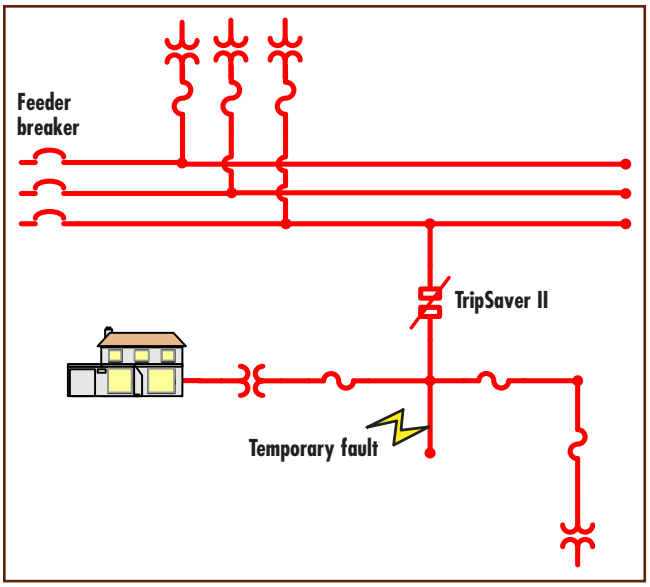

Figure 3. Temporary fault.

Utilizing its fast TCC curve, TripSaver II opens, as shown in Figure 4. Only customers served from the lateral downstream of TripSaver II experience a momentary interruption.

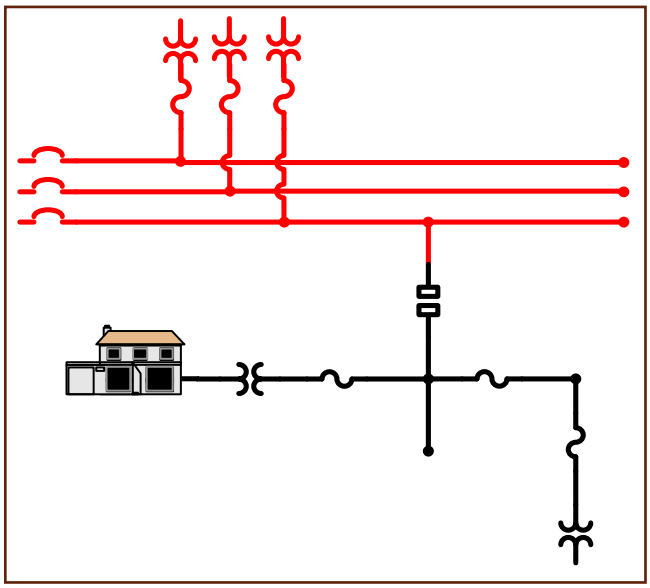

Figure 4. TripSaver II opens.

After five seconds, TripSaver II recloses, restoring power to customers served from the lateral downstream, as shown in Figure 5. Since the fault was temporary and has been cleared, further tripping operations aren't needed. TripSaver II reverts to its first TCC after 15 seconds.

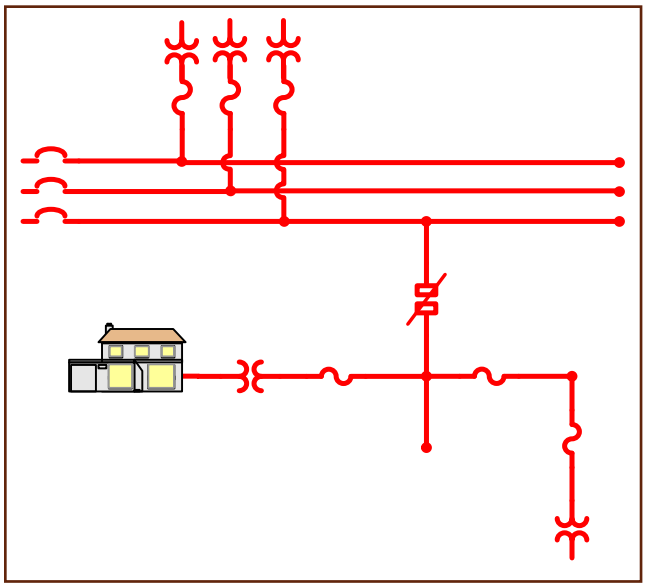

Figure 5. TripSaver II recloses.

How TripSaver II works for a permanent fault

Consider a permanent fault downstream of TripSaver II, as shown in Figure 6.

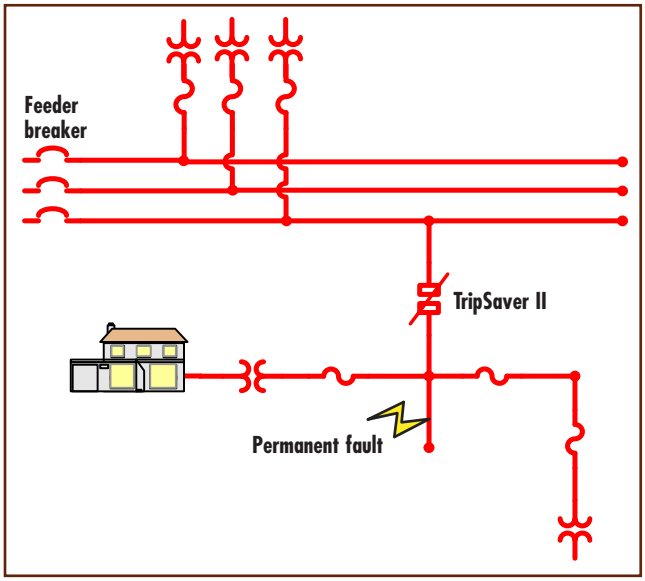

Figure 6. Permanent fault.

As before, utilizing its fast TCC curve, TripSaver II opens, as shown in Figure 7. Again, only customers served from the lateral downstream of TripSaver II experience a momentary interruption.

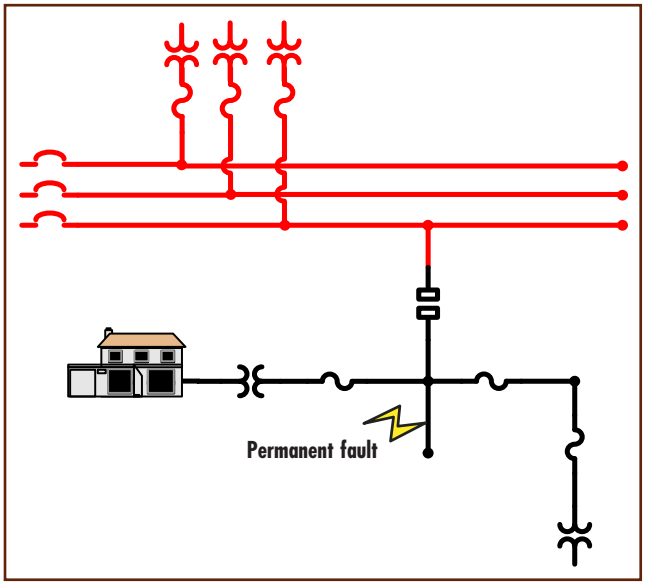

Figure 7. TripSaver II opens.

TripSaver II recloses, as shown in Figure 8.

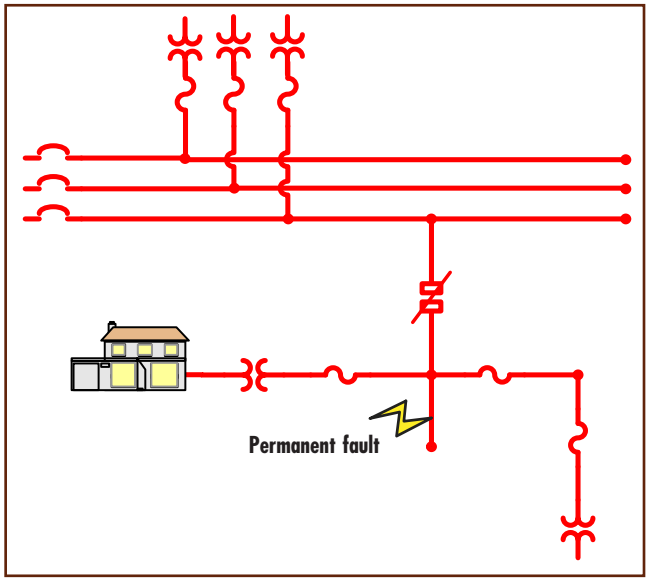

Figure 8. TripSaver II recloses.

Since the fault is permanent, TripSaver II performs further tripping operations per the specified TCC curves. For utilities employing "fuse saving" philosophy, TripSaver II drops open at the end of its operating sequence, in the same manner as a standard fuse cutout—providing visual indication that the faulted lateral has been isolated, as shown in Figure 9. The vacuum interrupter resets two seconds after TripSaver II drops open. TripSaver II may then be reclosed by the operator once the fault has been repaired.

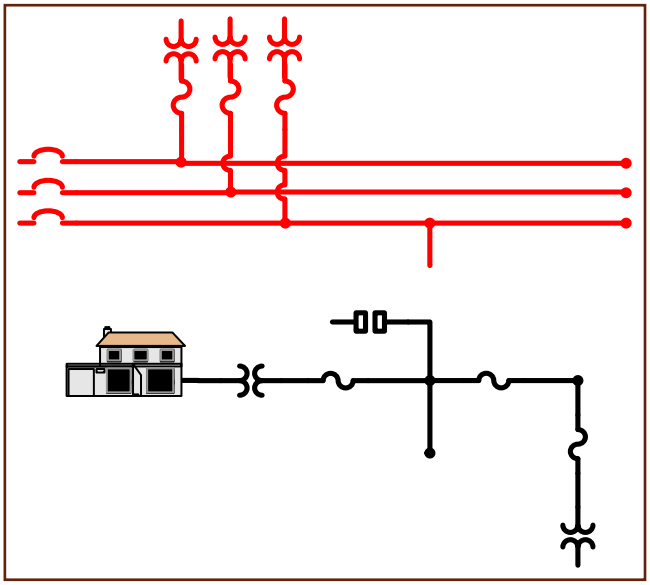

Figure 9. TripSaver II drops open.