

SENTINEL Reporting System for Draglines

The DCS SENTINEL reporting system provides **long-term data storage** and **automatically-generated reports** for Dragline maintenance information.

The automated reporting includes an alarm log, event log, key operating and down time data, and key condition monitoring data (e.g. RMS values, temperatures, motion XY plots).

Reports

SENTINEL reports, which are **automatically emailed to designated personnel on a regular basis**, provide:

- detailed log of all Dragline **faults and alarms** over the reporting period;
- time-stamped logs of **electrical down time** and the exact cause as reported by the control system;
- time-stamped logs of **key events**, such as starting & stopping MG Sets and boom protection calibrations;
- **operating/idle/down time hours** and key metrics;
- **condition monitoring** such as RMS current values, temperatures, DC ground faults, motion XY plots, commutation limit excursions, etc.
- Since SENTINEL gets its down time data directly from the control system, it can help to detect electrical down time that was incorrectly entered by an Operator.
- SENTINEL will generate reports on a periodic basis. The daily report will provide a detailed snapshot of the previous 24 hours.
- The SENTINEL system is software-based and is installed on a new PC supplied by DCS for installation on each Dragline.

AccuWeigh™ Lite Option

- DCS can optionally provide a 'lite' version of their production monitoring system AccuWeigh™, to provide **additional payload and cycle data** for maintenance monitoring and reporting purposes.
- The AccuWeigh™ Lite information includes:
 - bucket material weight for each cycle
 - identification of bucket overloading
 - average payloads and cycle times for the reporting period
 - other key cycle data.

Saraji Sentinel Systems

- Installation of the Sentinel System on all Draglines.
- Daily reports (every 24 hours) automatically generated and emailed.
- Customisations.

Saraji Customisations

- FTP Server.
- AccuWeigh™ Lite.
- Brake Testing certificate.
- Boom Protection testing certificate.
- Weekly report of alarms and events in .csv format (emailed once per week per Dragline).
- Trailing cable strain monitoring (future)

Prerequisites

- The SENTINEL system is software-based and is installed on a new PC supplied by DCS for installation on each Dragline.
- The SENTINEL system requires a connection to the site Ethernet network to allow the reports to be sent off the machine, and to enable remote access to the PC and stored data.
- Existing PLC system (either GE Fanuc RX3i or Allen-Bradley ControlLogix).
- Installation of some additional PLC logic.
- Suitable installation location for the SENTINEL PC.
- Control power supply for the SENTINEL PC.
- Two (2) Ethernet switch ports, IP addresses and Ethernet connections/cables for the SENTINEL PC.
- Communications between the SENTINEL PC and PLC, and access to the site Ethernet network for off-board communications (see below).
- Provide remote (off-site) access for DCS personnel to the onboard SENTINEL PC, via the client's network infrastructure and site Ethernet network. (Remote access is required to allow remote maintenance, fault-finding and updates to the SENTINEL PC software).
- Provide access to the client's email server, to relay the reports generated by the SENTINEL PC that are to be emailed to the relevant personnel.

To discuss your project requirements, contact the DCS Australia team:

Lee Gomersall: 0427 185 069

Danny Jones: 0438 695 164

Unit 1, 16 Transport Ave

Paget QLD 4740

