

## Application Note



# HIPPS activation reports to help identify valve travel times

## Reporting on HIPPS Activations

Reports on HIPPS (High-Integrity Pressure Protection System) activations were being generated at a production site using a fully customized application package running on a legacy Distributed Control Systems (DCS) which needed to be replaced.

The client required a standardized solution that was independent from the DCS, so that it could be implemented across many locations with minimal configuration at each site. It was essential that a replacement system would continue to provide reports showing which valves had been activated and the travel time for each activation for continuity and safety compliance.



## DCS Independent Solution

Yokogawa developed a DCS independent solution based on Exaquantum that used the Sequence of Events (SOE) data received from the HIPPS system to generate two new reports, HIPPS Activations and Event Travel time.

The HIPPS reports are created within Exaquantum/ARA (Alarm Reporting and Analysis), replicating the reports from the previous application, to show the initiators of the HIPPS trip and calculate the valves travel time.

This new solution can be implemented across many locations with minimal configuration and has been deployed in two sites using ProSafe-SLS for the HIPPS. In one site, the SOE data is collected through an OPC server connected to ProSafe-SLS, in the other site, through a CHS2200 package and a ProSafe-RS acting as a communication bridge.

## Reports

### HIPPS Activation

The HIPPS activation report will show each HIPPS activation and the associated valve times. The report can also show an associated pressure value at time of activation.

### Event Travel Time

The report summarizes the actual travel time of the selected valve compared to the configured limit time for that valve.

Both reports are created with Microsoft Reporting Services precisely meeting the customer requirements and support filtering and time range search. All HIPPS activation and configuration data is stored in Exaquantum (Data Historian), with additional tables used to store intermediary report data. The reports are also available in PDF format to facilitate review and distribution between multiple teams.

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### Project Implementation

By the end of 2016, the solution had been installed, configured and tested at two separate locations, with plans to roll this out across many more sites in the future. Once deployed and tested at each location, all reports are available at the centralized data center.

### Key Takeaways and Benefits

#### Safety Compliance

This solution conformed to the HIPPS safety requirements and applicable safety standards providing full independence from the DCS.

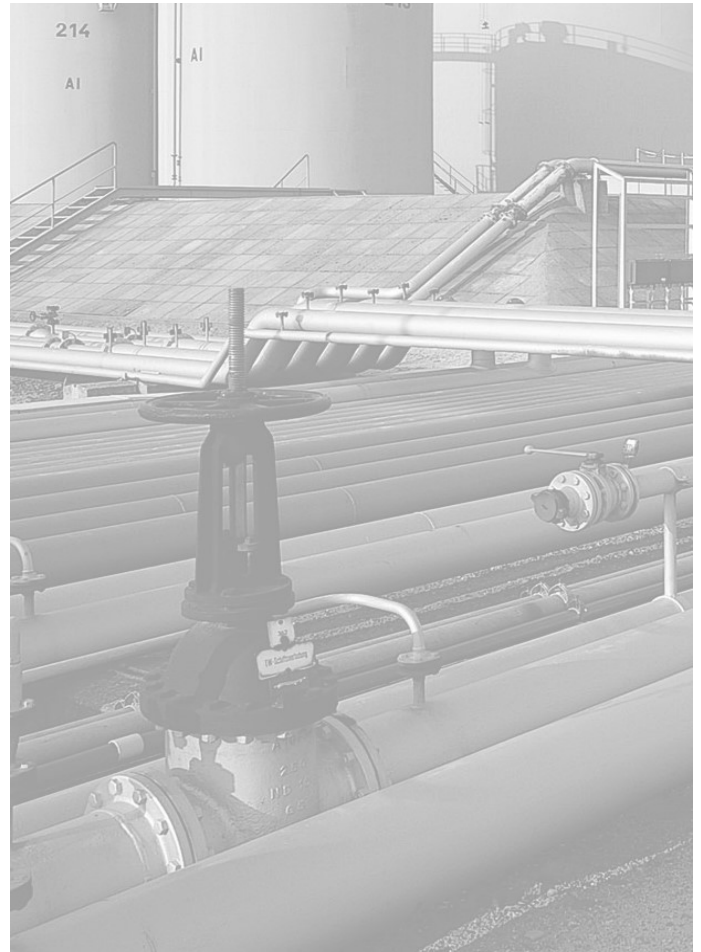
#### Seamless Integration

The new solution replaced the previous system with minimal service disruption and conformed to all customer requirements. The reporting capabilities are maintained for continuity within the plant.

#### Easy Deployment

The solution can be installed with minimal configuration for all locations as required by the customer. The solution is easily connected to the different data sources available at each plant for easy deployment.

reporting capabilities are maintained, ensuring continuity and minimized disruption within the plant.



### References

Exaquantum Alarm Reporting and Analysis R2.85.20  
Exaquantum Plant Information Management System

### Source Information

For more information, please contact [sales@ymx.yokogawa.com](mailto:sales@ymx.yokogawa.com)

All sales materials and information are available on the PESN site at

<http://globalcyber.jp.ykgw.net/pesn/index.htm>

Station	Signature	Action	Condition	Actual Time	Result
05-000001-01-01-01	0500_0101	Value open			
05-000001-01-01-01	0500_0101	True		270.00s	
05-000001-01-01-01	0500_0101	False		0000.00s	
Open Travel Time: 0000.00s 0000.00s 0000.00s					
07-000001-01-01-01-01	0700_0101	Value close			
07-000001-01-01-01-01	0700_0101	True		270.00s	
07-000001-01-01-01-01	0700_0101	False		0000.00s	
Close Travel Time: 0000.00s 0000.00s 0000.00s					

Signature	Condition	Actual Time	Result
05-000001-01-01-01	0500_0101	270.00s	True
05-000001-01-01-01	0500_0101	0000.00s	False

Configuration Table	ID	Area	Unit	Name	TriggerName
1	05000	05000	05000	05000	05000

Signature	Condition	Actual Time	Result
05-000001-01-01-01	0500_0101	270.00s	True
05-000001-01-01-01	0500_0101	0000.00s	False

HIPPS Unit	Activation Date
05-0001_1	15 Aug 2016 11:20:27
05-0001_2	15 Aug 2016 11:21:59
05-0001_3	15 Aug 2016 11:42:12
05-0001_4	14 Sep 2016 08:38:13
05-0001_5	14 Sep 2016 08:38:52
05-0001_6	14 Sep 2016 08:38:59
05-0001_7	14 Sep 2016 08:37:32