General Specifications

Model NTPC012
Exaquantum Override Safety
Advisor

Exaquantum

GS 36J40B30-01EN

■ PROBLEM

Understanding which plant instruments can be safely overridden can be complicated. Plant conditions are continuously changing, and risk assessments often involve numerous instruments and potential hazards.

Being able to understand override impacts and how they effect other areas are not always obvious. This can result in lengthy assessments requiring experienced personnel. Combining these factors will often result in a compromised risk assessment that can lead to potentially dangerous situations.

■ SOLUTION

Exaquantum Override Safety Advisor (Exaquantum/OSA; hereafter referred to as 'OSA') provides users with the capability to perform a risk assessment prior to implementing one or more instrument overrides based on live updating plant conditions.

Assessments present areas of concern based on the plant's safety design and the potential for creating dangerous conditions. Decision makers are able to quickly make safer decisions, and have the data available to corroborate their decisions following implementation of the override(s).

■ BENEFITS

• Provides overview of the Plant with a graphical overview that clearly marks overridden instruments and highlighting risk areas
• Aids decision making by providing key information to help assess risk factors
• Supports Safety Policy providing functionality to help enforce plant policies and procedures
• Traceability - Audit trailing, logging and reporting provides historical traceability for regulators and investigators
• Assessment and Analysis capabilities with reports and historical querying
• Optimized Efficiency - shift handovers and override assessments are made quicker and more accurate, saving time

■ KEY FEATURES

• Web based user interface
• Ability to perform override pre-assessments
• Monitors live plant conditions, overrides, offline equipment, non-assessed overrides, etc.
• Identifies authorization levels required for override approvals
• Assists with safety policy enforcement and identification of actions that do not adhere to policy
• Supports scheduling and emailing of selected reports
• Compatible with non-Yokogawa systems via OPC A&E 1.1

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![YOKOGAWA]

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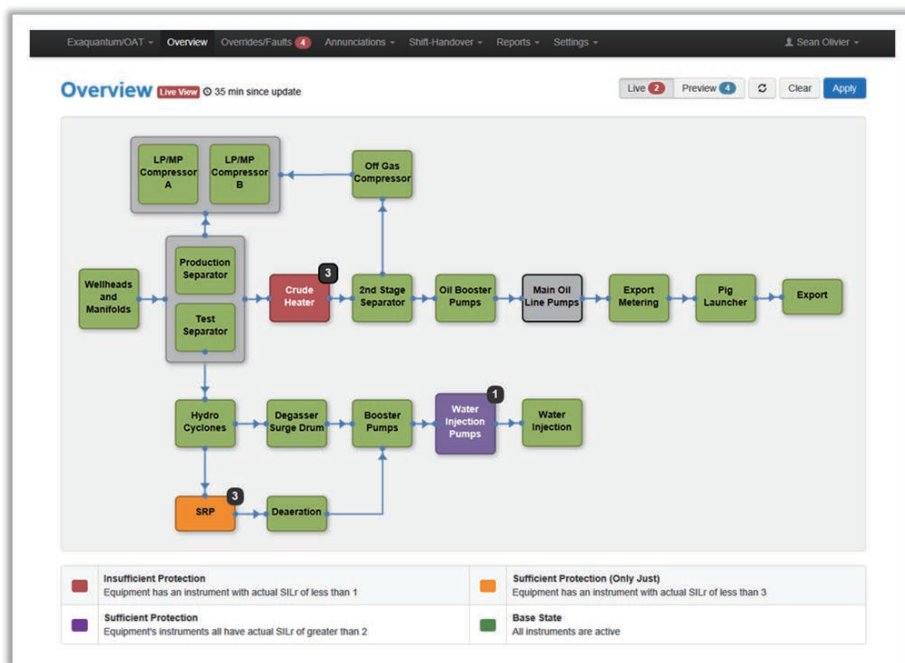
■ INTRODUCTION

OSA is a web based application providing risk assessment assistance to users before overriding instruments or equipment by:

- Displaying the current plant conditions
- Assessing the impact of overrides before their implementation
- Identifies what affects may manifest in other equipment when an override is performed
- Assists with policy enforcement and identification of actions that do not adhere to a plant's safety policy
- Provides numerous features for optimizing assessments, analysis, reports generation and shift handovers

■ CAPABILITIES

Data Collection

The underlying Exaquantum historian provides OSA with a powerful, integrated, cost-effective platform for collecting and storing data from different sources via OPC DA, OPC A&E and OPC HDA, independent of the system vendor. OPC HDA has been expanded within Exaopc (Yokogawa's OPC server) to allow historical Alarms & Events to be recovered by Exaquantum following a communications interruption.

Risk Assessment

OSA is configured using safety design information obtained from the HAZOP (Hazard and Operational Analysis).

Utilizing this information, OSA provides functionality to allow operators to perform override risk assessments prior to implementation. This allows risk assessors to make better informed decisions regarding the potential risks associated for any override.

OSA's risk assessment provides an intuitive plant graphical display containing clearly highlighted risk areas with additional details available by drilling into selected areas.

Plant Overview

OSA provides a near real-time graphical overview of the plant that allows operators to view the current state of their equipment and instrumentation.

Shift Handover

OSA provides a concise and easy to understand Shift Handover Reports containing all override activities, making shift handovers simple, accurate and efficient.

Policy Enforcement

OSA encourages good practices and policy enforcement by:

- Highlighting overrides that were not assessed prior to their execution
- Identifying assessments which did not have the appropriate approvals
- Forcing assessments to be re-evaluated when plant conditions change
- Helping to prevent additional overrides from occurring in areas that have an excess of active inhibits

Authorization Identification

Based on the severity of risk, OSA will inform users which personnel must provide their approval before executing an override. This streamlines the approval process while maintaining standards and safety policy guidelines.

Hidden Overrides

OSA allows overrides to be manually entered in the cases where instruments cannot be monitored or do not raise events when being inhibited to allow these instruments to be included in risk assessments.

Web User Interface

OSA provides secure web based displays and reports for users to access from local and remote locations that requires no client software installation.

■ REPORTS

Dynamic user reports contains hotspots, filtering and sorting options to allow analysis of the data.

Reports can be exported to multiple formats (Excel, Word, PDF, etc.) and can be scheduled to be emailed at configurable periods.

Instrument Overrides Report

This report displays instruments that have been overridden, or equipment taken offline, for a user specified time range.
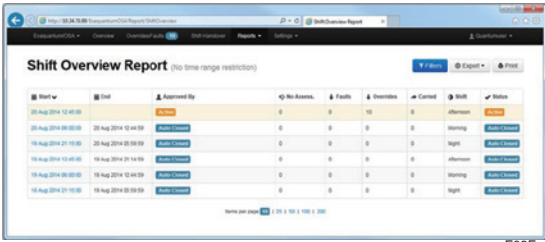

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Shift Details Report

This report displays a complete view of all override activity that took place during a shift period and includes the Shift Details, Shift Notes, Instruments Overridden, Instruments Taken Offline and Equipment Status.

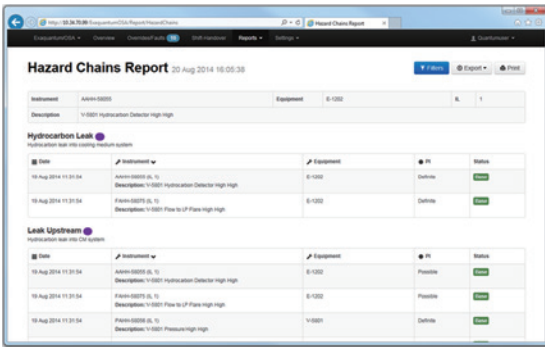F04E.ai

Shift Overview Report

This report displays an overview of the inhibit KPIs for each shift.
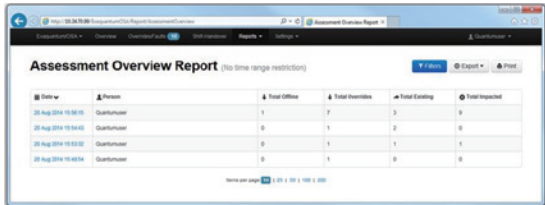

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Hazard Chain Report

This report displays a detailed view of an instrument, including all hazards chains of which the instrument is a member, to show the impact of an instrument override.

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Assessment Overview Report

This report displays an overview list of all assessments which have been performed during a specified time range.


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Assessment Detail Report

This report displays a detailed view of the performed assessments.

The following can be identified from this report:
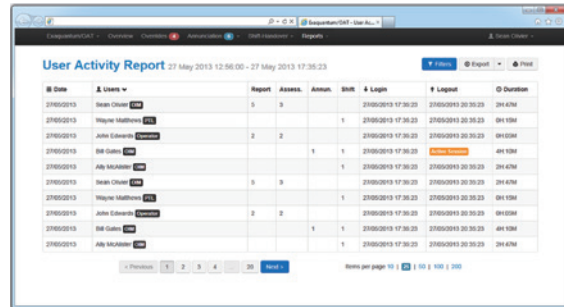
• Overridden or offline Instruments
• Instruments that were overridden or offline prior to the assessment
• Instrument that were impacted by overridden or offline instruments
• The risk factors for overridden or offline instruments.
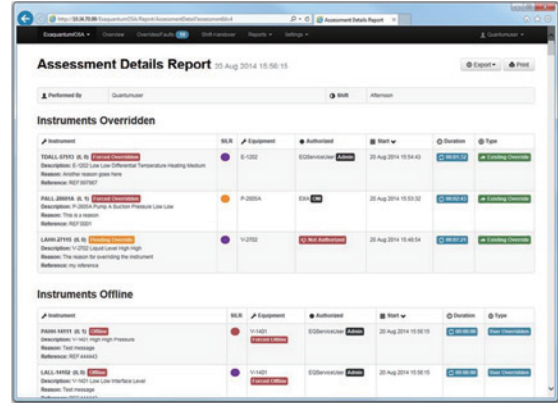
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User Activity Report

This report displays a detailed view of the activities of all users during a specified time range.

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■ HARDWARE AND SOFTWARE REQUIREMENTS

Minimum Hardware and Software Specifications

Component	Minimum Hardware and Software Specification
Exaquantum/OSA Server	For detailed specification information, refer to the following description in "Exaquantum GS (GS 36J04A10-01E)." Hardware: ● Hardware Operating Environment "Exaquantum Server" Software: ● Software Operating Environment "Exaquantum Server" For detailed supported revision, please refer to "GS 36J40W10-01EN."
Exaquantum/OSA Web Server	For detailed specification information, refer to the following description in "Exaquantum GS (GS 36J04A10-01E)." Hardware: ● Hardware Operating Environment "Web Server" Software: ● Software Operating Environment "Exaquantum Web Server" For detailed supported revision, please refer to "GS 36J40W10-01EN."
Exaquantum/OSA Web Clients	For detailed specification information, refer to the following description in "Exaquantum GS (GS 36J04A10-01E)." Hardware: ● Hardware Operating Environment "Exaquantum Use PCs" Software: ● Software Operating Environment "User PCs for Exaquantum/Explorer, Exaquantum/Web Client" For detailed supported revision, please refer to "GS 36J40W10-01EN."

If OSA will be installed on a different version of Exaquantum, please contact Yokogawa for assistance.

■ MODELS AND SUFFIX CODES

Exaquantum/OSA Product

		Description
Model	NTPC012	Exaquantum/OSA Product
Suffix Codes	-S	Basic Software License
	1	New Order (with Media)
	1	English version
	-SV□	Enter the number of Exaquantum/OSA Server Licenses (1 - 9)
	-YYY	Select an Option Code
Option Code	/WC□	Enter the number of new or additional per-seat Exaquantum/OSA Web Client Licenses (1 - 9)

Maintenance Service for Exaquantum/OSA

		Description
Model	SV3NTMC012	Maintenance Service for Exaquantum/OSA
Suffix Codes	-S	Annual Contract
	1	Always 1
	1	Always 1
	-SV□	Enter the number of Exaquantum/OSA (Override Safety Advisor) Server Licenses (1 - 9)
	-YYY	Select an Option Code
	-N	New
	-R	Renewal
Option Code	/WC□	Enter the number of per-seat Exaquantum/OSA Web Client Licenses (1 - 9)

■ ORDERING INFORMATION

Specify model and suffix codes.

■ TRADEMARKS

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