BROCHURE

Octave Tempo Control of Work

Is your company still using paper, spreadsheets or word processor documents to manage and record safety-critical control of work information?





The challenge

According to the Health and Safety Executive (HSE)[1], when using permit-to-work systems to safely control work, major hazards could arise from the following:

- Wrong type of work permit was used
- Incorrect information about work required in the work permit
- Failure to recognize the hazards where work is carried out – i.e., flammable substances
- Introduction of an ignition source in a controlled flameproof area – i.e., welding, non-spark-proof tools, non-intrinsically safe equipment used in intrinsically safe zones
- Terms of work permit not adhered to – i.e., failure to isolate plant or drain lines of hazardous substances
- Failure to hand over the plant in a safe condition on completion of work/canceling of work permit
- Unauthorized staff performing work permit functions
- Poor management of the work permit system
- Insufficient monitoring of the work permit system

[1] HSE is a U.K. government agency responsible for the encouragement, regulation and enforcement of workplace health, safety and welfare and for research into occupational risks.

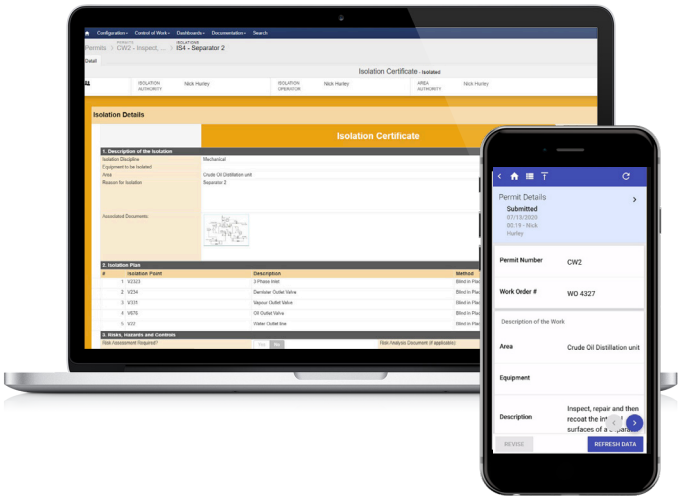
The solution

The digital Octave Tempo Control of Work (formerly j5 Control of Work) solution has been developed to reduce operational risk and help ensure that:

- **Right type of work permit is used**
  Using strict approvals and workflows
- **Standardizing data entry**
  Drop-down menus, checklists and conditional selections make for a more consistent understanding of work and risk
- **Hazards are recognized where work is carried out**
  Comprehensive advice and information is accessible on a mobile device at each workflow step
- **Enforcement of company policy and procedures using software rules**
- **Integration of the isolation management and permit workflow**
  Ensures work can start and finish with the isolation in the right state, and isolations cannot be removed if work is ongoing
- **Staff performing work permit functions are authorized**
  Enforces a process of worker identification and required signatures before and after each work function
- **Effective management and monitoring of safe work**
  Ensures real-time monitoring at various levels of the organization, Tempo Control of Work provides quick, transparent views of the planning and execution of work and the ability to perform desktop audits for compliance.

"The idea of 'production vs. safety' must give way to the vision of 'safe production."

Terry Mathis
CEO, ProAct safety



Tempo Control of Work is specifically designed for both desktop and mobile user experiences.

A safety bulletin, "Seven key lessons to prevent worker deaths during hot work in and around tanks," from the U.S. Chemical Safety and Hazard Investigation Board (CSB) highlighted how inadequate permit-to-work procedures have contributed to numerous accidents where a flammable vapor came in contact with an ignition source.

One of the key lessons from those tragic incidents was that companies should use written permits and:

"Ensure that qualified personnel familiar with the specific site hazards review and authorize all hot work and issue permits, specifically identifying the work to be conducted and the required precautions."

The American Petroleum Institute (API) and National Fire Protection Association (NFPA) also highlight the importance of control of work procedures in:

- **API RP 2009:** Safe Welding, Cutting and Hot Work Practices in the Petroleum and Petrochemical Industries
- **NFPA 51B:** Standard for Fire Prevention During Welding, Cutting and Other Hot Work
- **NFPA 326:** Standard for the Safeguarding of Tanks and Containers for Entry, Cleaning or Repair

Key business drivers for digital control of work



Productivity gains

- Reduction in permitting time
- Enhancements to simultaneous operations and maintenance planning



Risk reduction

- Last best example of work practices
- Building lessons learned process into a routine continuous improvement capability
- Enhanced simultaneous operations (SIMOPs) management and work conflict management
- Qualifications management built into workflow
- Real-time operational twin allows for real-time interventions for correction and for improvement
- Corrective action preventive action (CAPA) management can be applied and tracked



Security and data integrity

- Individual user transaction level auditability
- Workflow management with role specific access and control
- Can provide enhanced electronic signature capability (eIDAS definition)



Management and compliance

- Company policy and regulations can be enforced by software rules
- Audits and compliance processes can be applied at every step of the permit process



Integration with systems of record

- Integration with Octave solutions
- Can be integrated with Octave Tempo Control System Effectiveness (formerly PAS PlantState Integrity)
- Preconfigured interfaces with most major industrial systems of record i.e., historians, CMMS/EAM

Octave Tempo Operations Management (formerly j5 Operations Management Solutions) offers the advantage of having a proven industrial solution whilst having the option to provide any complementary module that you would need for a specific requirement."

Laurent Hardy
Operations manager, European Synchrotron Radiation Foundation (ESRF)

Control of work value drivers of digitalization

Quantitive benefits

- Productivity gains - 0.25 hours per person per permit for travel times
- Savings of >2% production losses
- Productivity gains - 0.5 hours per permit from digitalization efficiency
- Reduced paper usage
- >2.5% increase in wrench time
- 50% reduction in audit and continuous improvement costs
- 5% to 15% reduction in unplanned maintenance costs

Qualitative benefits

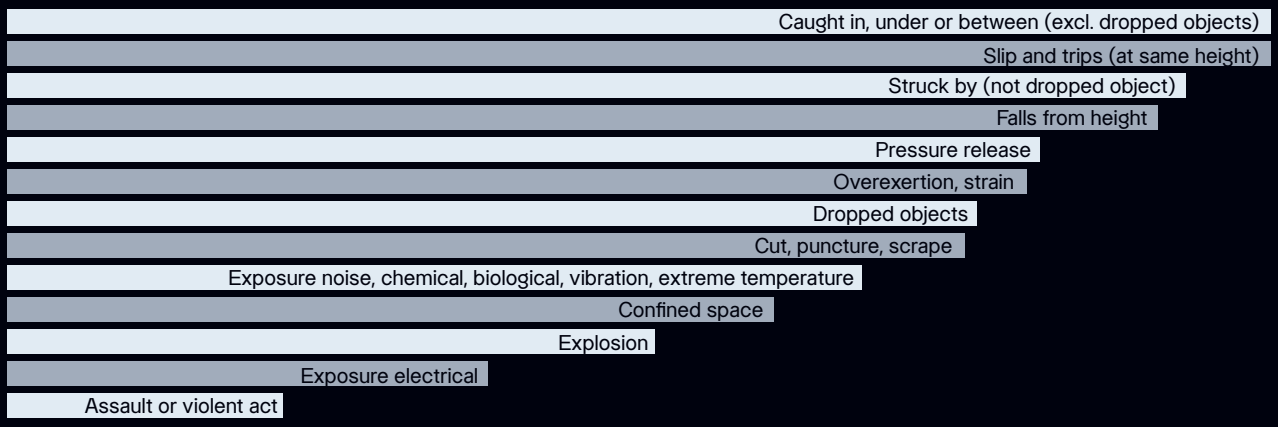
- Effective communication of the risk of ongoing operations across all organizational levels
- Real-time risk KPIs across an enterprise
- Real-time feedback and competence support during work execution
- Enhanced collaboration between operations and maintenance
- Reduction in insurance and incident costs



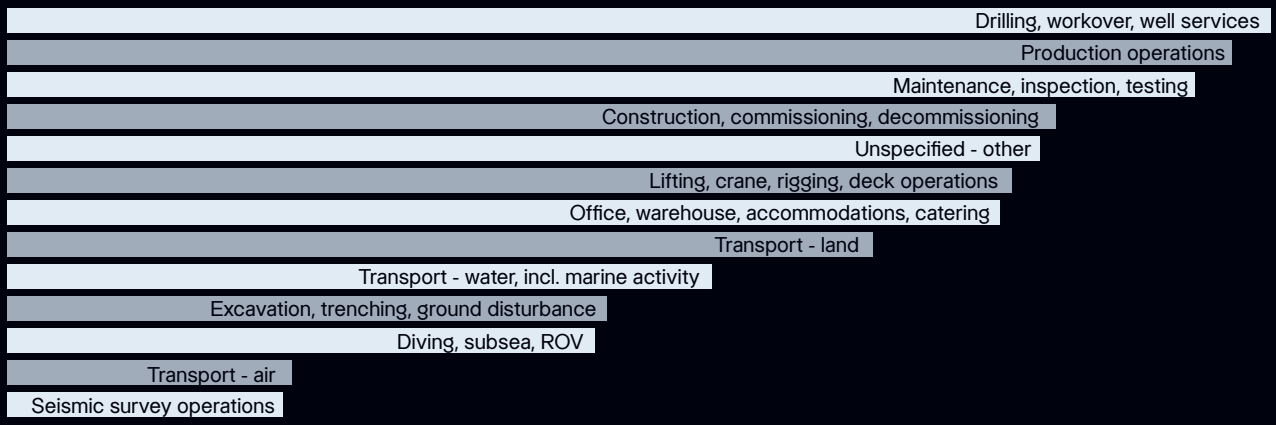
Job safety - is this still an issue?

International Association of Oil & Gas Producers (IOGP) member companies that participated in the study reported a total of 540 lost workday cases in 2020 and overall participating companies reported 15,631 days of work lost through injuries in 2020. Apart from assault and violent acts, all of these incidents would be impacted by or reduced by digital control of work.

Lost work day cases by cause (2020)



Lost work day cases by activity (2020)



Can control of work help?

Most safety incidents in even the most mature industries occur within control of work practices. Data from the IOGP 2020 safety survey shows that more than 70% of lost time incidents (LTI) and fatalities are related to control of work and could be better managed with an enterprise-level digital solution.

Ratio of fatalities to lost time injuries by cause (2020)

Cause	LTIs (fatalities + LWDCs)	Fatalities	Ratio (LTI:fatality)
Water-related, drowning	5	4	1:1
Exposure electrical	6	2	3:1
Explosion	12	3	4:1
Struck by (not dropped object)	94	3	31:1
Dropped objects	31	1	31:1
Caught in, under or between (excl. dropped objects)	100	1	100:1
Slips and trips (at same height)	99	0	n/a
Falls from height	67	0	n/a
Unspecified-other	43	0	n/a
Overexertion, strain	40	0	n/a
Cut, puncture, scrape	27	2	n/a
Exposure noise, chemical, biological, vibration, extreme temperature	17	0	n/a
Pressure release	10	0	n/a
Assault or violent act	2	0	n/a
Confined space	1	0	n/a

78.9% of LTIs

are managed by control of work / safe work practice procedures

71.4% of fatalities

are managed by control of work / safe work practice procedures

About Octave

Octave is a leader in enterprise software, turning data into decisive action and intelligence into your edge. Our software solves for and simplifies complexity, from the design and build to operations and protection of people, property and assets – for any scope, at any scale. For decades, we've partnered with customers to sharpen performance, elevate efficiency and amplify results. From factory floors to entire cities, our solutions are tuned to scale up what's possible from day one onward.

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