# Agility and Mobility in All Phases of an STO

Adaptive Planning Throughout your Shutdown, Turnaround, or Outage: Part 2 August 20, 2020



# **Prometheus Group**

Founded in 1998 Headquartered in Raleigh, NC, USA 11 global offices Integrated and intuitive software Partnerships with industry leading companies







**TOP 6** Oil & Gas



**TOP 6** Pulp & Paper Chemical

TOP 6



TOP 6 Mining & Metals



**TOP 6** Utilities









# **Key Customers**





# Why do STOs Fail?

Poor communication

Lack of visibility of work scope and progress tracking

Little or no ways of tracking actions/risks/issues

Poor planning

Poor estimation, late start in planning

Too much work

Some work doesn't belong on STO Poor gatekeeping/fluid scope freeze

Scope Management

90% of STOs have 10-50% scope creep



## The Timeline of an STO Event





### Scope Request & Planning Phase

# Accurate STO planning starts with accurate scope creation

- Creating **Scope Requests** from the field ensure higher accuracy in less time with minimal errors
- Integration with the system of record enable full data transparency; single source of truth
- To achieve **successful scope management**, systems and technology in place must enforce and enable business workflow before and after scope freeze



### Scope Freeze & Procurement

Technology and software in place should adhere to your business process; not the other way around

- Workflows and approvals should adjust based on phase of STO timeline
- Technology should make it easy to follow workflow
- Procurement updates should be systematic and coming from one source of the truth
- Manage by exception



# **Interactive Session**



### Mobility & Impact on Scheduling

#### **Customer Case Studies: Shipping Industry**

- Launching mobility enabled higher quality of data entering the system
- Planning is now **forty times faster**
- Better planning helped reduce scheduling time by 88%, while also improving schedule quality
- Updates from the field enable agility in schedule updates, schedule publishing





## Safety & Permitting in an STO

- More people on site at a time makes for a higher likelihood of safety incidents
- More inexperience in the workforce
- SIMOPS
- Increased amounts of high-risk activities such as confined space entry and safety system outages
- Templating entire STOs drastically increases efficiency of energy isolation and permit relationships
- Using a mobile enabled Integrated Safe System of Work makes the STO systematically safer





### The STO Execution Phase

On average, **75%** of work is carried out by third party personnel

- Most contracted personnel have no access to main system of record
- Specialized vendors
- Often delayed progress reporting, and updating in system is time consuming

**Agility** in mobile solution is key to resolve these pain points



# **Interactive Session**



### Analyzing & Reviewing Lessons Learned

- Time should be spent analyzing metrics not massaging date to generate the metrics
- All aspects of business need representation for the full picture



### Leveraging an STO Dashboard



#### Intuitive & Interactive KPIs



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### Real-Time Tracking of STO Development

Overview	Scope Work packages QAQC Inspectio	n Materials Configuration	Admin					Derek Shickel MN_STO_2022 V
STO Overview								anickeigh on curculy oup con T
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Unit	Equipment Type	Equipment Number	Equipment Tag	SAP Work Order	Work Description Ex	pense Type	Planning Task	Assignee
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RA-U	Tube Rundle	1102120080				utine Maintenance	Execution Inspection	
BA-E	Variable Frequency Drive	US3134703			MI-RV-312A RV 5YR RECERTIFICATION En	aineerina Request	Specialist Engineering	
BA-E	Pressure Safety Valve	US3132433			MI-CLAMP 14-056 S OF HS-103 ROOT VLV Ro	utine Maintenance	QA/QC Package	
BA-E	Tube Bundle	US3209591			MI-RV-4350 RV 3YR RECERTIFICATION Ca	pital	Materials Ordered	
BA-U	Electric Pump	US3134773			MI-RV-384 RV SYR RECERTIFICATION Ro	utine Maintenance	Execution Inspection	
BA-U	Hot Oil Furnace	US3132446			NAT GAS, REMOVE DEADLEG @ CONTROL RM Rd	utine Maintenance	Rescue Plan	
BA-U	Cooling Tower	US3134507			RV-1391 U/S VALVE BROKEN OPEN Ca	pital	Lift Study	
BA-S	Tube Bundle	US3193724			MI-RV-254 RV 5YR RECERTIFICATION RC	utine Maintenance	Materials Ordered	
BA-F	Cooling Tower	US3132382			XV-120 STROKE VALVE IN PLACE C	nital	isolation(s)	
BA-E	Distillation Column	US3134435			MI-RV-117B RV 5YR RECERTIFICATION En	gineering Request	Inspection Plan	
BA-U	Distillation Column	US3132389			MI-CLAMP 12-015, LP STM PIPING @ YS-41 Re	utine Maintenance	Inspection Plan	
BA-S	Electric Pump	US3224483			XV-214B STROKE VALVE IN PLACE En	gineering Request	Specialist Engineering	
BA-E	Reactor	US3134454			MI-RV-124B RV 5YR RECERTIFICATION Ca	pital	Inspection Plan	
BA-U	Piping	US3132382			MI-CLAMP 07-02 P-561402- REMOVE Tu	rnaround	Scaffolding	
BA-U	Heat Exchanger	US3134474			MI-RV-1334 RV 3YR RECERTIFICATION Ro	utine Maintenance	Scaffolding	
BA-S	Tube Bundle	US3132475			GLYCOL, REPLACE ALL BUTTERFLY VALVES M	ajor Maintenance	Environmental Permit Required	
BA-E	Centrifugal Pump	US3209527		7053056	MR-105: BLINDING Ca	pital	Specialist Engineering	
BA-S	Cooling lower	US3134545			MI-RV-202A RV 3YR RECERTIFICATION M	ajor Project	isolation(s)	
BA-S	Continua Pump	1153134553			MLRV-200 RV 5VR RECERTIFICATION	ajor maintenance	Specialist Engineering	
	CARGONI DIMES							

### **S-Curve Analysis**



# Questions?





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