

# **Shift Change Handoff: Process, Information and Documentation**

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# Shift Change Handoff

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## Discussion

- Why is Shift Change Important?
- What are the Components of a Good Shift Change?
- Marathon Pipe Line Shift Change
  - Process
  - Documentation
  - Training

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## Why is Shift Change Important?

- Extremely Critical Activity
  - Industry
    - Critical Responsibility of Controller
      - Safe Operations
      - Maintain the Continuity of Operations/Maintenance Activities
  - Regulatory Agencies
    - 2006 PIPES Act
      - PHMSA has Included the Shift Change Process as a Targeted Enhancement Area of Control Room Management

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## Why is Shift Change Important?

- 2006 Pipes Act – Requirements
  - Formalize Procedures
    - Recording/Communicating Critical Information
      - Each Operator must define the Critical Information to be Shared at Shift Change
    - Exchanging Information (Shift Turnover)
      - Adequate overlap
      - Normal Shift Change and Other times when a Controller may be away (i.e. breaks, etc.)
    - Documentation
      - Ensure Consistency Among Controllers
      - Auditable

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## Components of a Good Shift Change

- Not a One Size - Fits All
  - Many Variations within the Industry
    - Shift Length (8, 12 Hour)
    - Complexity of Console Operation
    - Face to Face or Remote
    - Emergency/Abnormal (Evacuation, Illness, etc.)

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## Components of a Good Shift Change

- Clear Roles and Responsibilities
- Thorough/Consistent
- Documented
- Training

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## Components of a Good Shift Change

- Clear Roles and Responsibilities
  - Departing/Arriving Controller
- Thorough/Consistent
  - Preparation
  - Hand-Off
  - Check-In

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## Components of a Good Shift Change

- Documented
  - Forms
  - Records Retention
- Training
  - New Controllers
  - Refresher

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## Marathon Pipe Line - Shift Change Process

- Marathon Operations Center (Background)
  - 44 Analysts (Pipeline Controllers)
  - 4 Shifts Working 2-3-2 Rotation
  - 12 Hour Shifts
  - (8) Controllers, (1) Shift Specialist
    - Total 18 Analyst/Specialist Shift Changes/Day

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## Marathon Pipe Line - Shift Change Process

- Preparation
  - Set-Up (Accuracy is Critical)
  - Departing Controller Responsibility
- Shift Change Exchange
  - Knowledge Transfer (Good Communication)
  - Shared Responsibility
- Check-in
  - Golden Hour (Get your Bearings)
  - Incoming Controller Responsibility

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## Marathon Pipe Line - Shift Change Process

- **Preparation for Shift Change:** First stage of the Shift Change Process. During this stage the Operations Center Analyst on duty details the events that are anticipated to occur, during the next 12 hour shift, and prepares to pass on relevant information to the Arriving Analyst.

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## Marathon Pipe Line - Shift Change Process

- **Set-Up:** Process in which the Leaving Analyst details the events and operations, that are anticipated to occur, during the next 12 hour shift, for the Arriving Analyst. Events, normal, and abnormal operations are written on the Shift Change Event Sheet.

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## Marathon Pipe Line - Shift Change Process

- **Shift Change Exchange:** The second stage of the Shift Change Process. A critical time during daily operations when control of a console must transition from one Operations Center Analyst to another. During the shift change exchange both normal and abnormal operating information must be accurately passed from the analyst currently operating the console, to the analyst arriving for his/her shift.

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## Marathon Pipe Line - Shift Change Process

- **Check-In Process:** The third stage of the Shift Change Process. The Arriving Operations Center Analyst performs a “Check In” after the Shift Change Exchange to verify everything on the console is in order and/or set to their preference.

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## Marathon Pipe Line - Shift Change Process

- **Golden Hour:** The first hour after Shift Change has been labeled the “Golden Hour”. During this time the Departing Operations Center Analyst and the Arriving Analyst both share some responsibility for the console.

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## Marathon Pipe Line - Shift Change Process

- Preparation for Shift Change
  - Start Early
  - Complete Tasks
  - Accurate & Complete Set-up of Next 12 Hours
    - Operational Information
  - Double Check and Prepare for Relief

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## Marathon Pipe Line - Shift Change Process

- Operational Information Set-Up
  - Pigs, Start-ups, Shut-downs, Tank Containment, Cuts, etc.
  - Problems (Actions, Status, Notifications)
    - Incomplete Tasks, Malfunctioning Equipment, Schedule Changes, Communications, Weather, etc.
  - Personnel in Field
    - Maintenance Activity, Call-outs, etc.

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## Marathon Pipe Line - Shift Change Process

- Shift Change Exchange
  - Operations First
  - Review Event Sheet
    - Don't be Afraid to Slow-Down
      - Ensure Understanding – Repeat if Necessary
    - Listen Carefully
      - Don't Hesitate to Ask Questions
    - Follow the Process Every Time
      - Complete Knowledge Transfer

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## Marathon Pipe Line - Shift Change Process

- Check-in
  - Timely – ASAP
  - Be Thorough
  - Golden Hour

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## Marathon Pipe Line - Shift Change Process

- Check-in
  - Prioritize Check-in According to Workload –  
Examples:
    - Early Shift - Operations
    - Leak Detection System
    - Tank Stock / Availability
    - SCADA limits/setpoints, etc.
    - Schedule Summary
    - Etc.

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## Marathon Pipe Line - Shift Change Process

- Documentation
  - Shift Change Event Sheet
  - Check-in Guide



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## Marathon Pipe Line - Shift Change Process

- Check-in Guideline
  - Structured Guidance
  - Reminders
  - Not All Inclusive
  - Dated/Initialed

MPL Operations Center Check-in Process <input checked="" type="checkbox"/>	
(Items to check within the first hour after shift change - time permitting)	
On Each Console	On Each Pipeline System (continued)
<input type="checkbox"/> <b>AGS (Alarm Generation System)</b> • Check for upcoming events	<input type="checkbox"/> <b>Tank Stock-Space Availability</b>
<input type="checkbox"/> <b>Shift Change</b> • Perform shift change function ASAP	<input type="checkbox"/> <b>Meter Proving (where applicable)</b> • Has current batch been proved? • Will prover need aligned for future batches? (i.e. Product compatibility) • Is current factor in tolerance? • Should you be using 1-1-4 Rule?
<input type="checkbox"/> <b>General Alarm Summary</b> • Check for outstanding alarms	<input type="checkbox"/> <b>Tank Summary</b> • Verify tank alarms are enabled
<input type="checkbox"/> <b>CPM (Computational Pipeline Monitoring)</b> • Log into CPM System and select AOR • Open Console Overview • Open InstAlarm and check for outstanding alarms • Verify 'Enabled' status for each system / tank farm • Check current leak flow rates for overages / shortages • Check for disabled transmitters	<input type="checkbox"/> <b>Status Summary</b> • Make sure all inhibited and manual points are valid
<b>On Each Pipeline System</b>	
<input type="checkbox"/> <b>System Meters</b> • Verify that system meter batches match schedules • Check for special notes/operating instructions on schedules • Note any batches that may have been split after being pumped	<input type="checkbox"/> <b>Communications Summary</b> • Statuses normal or have problems been noted
<input type="checkbox"/> <b>Active Ticket</b> • Verify that meter configurations are correct • Tank ID entered where needed • Final/Partial field correct • Custody/Integrity field correct • OIS Area correct • Partial/Actual Volume • Warning Volumes/Times • Operator Tracks • Any tickets need verified?	<input type="checkbox"/> <b>Schedule Summary</b> • Verify paper schedules are same as electronic • Verify finished schedules are marked Complete in system
<b>Paperwork</b>	
	<input type="checkbox"/> <b>Checksheets</b> balanced, complete, and correct.
	<input type="checkbox"/> <b>Lineal Sheets (where used)</b>
	<input type="checkbox"/> <b>Receipt and Delivery Sheets (where used)</b>
<b>Other</b>	
<input type="checkbox"/> <b>Penalty Ticket</b> • Verify that meter configurations are correct • Tank ID entered where needed • Final/Partial field correct • Custody/Integrity field correct • OIS Area correct • Partial/Actual Volume • Warning Volumes/Times • Operator Tracks	<input type="checkbox"/> <b>Analog Spreadsheet</b> • Open the Analog Spreadsheet through PC Excel • Get current Analog values from the system • Return Analogs to normal range if needed • Verify the following is set appropriately for each tank: Showing IDLE, ACTIVE, AUTO HI/LO, HI/LO Realtime value Deviation Plus/Minus Limits, Settling Time Tank Safe Fill Targets/Times enabled if necessary • Return to the control page and save
<input type="checkbox"/> <b>Hydraulic Gradient</b> • Check line conditions • Be aware of points approaching pressure control • Compare current unit combinations vs. UAL • Note any upcoming Clean Fuels / Quality Issues • Check for positive pressure on sections that are down	<input type="checkbox"/> <b>Console Updates</b> • Open the Console Updates spreadsheet • Review the updates that you are not familiar with • Choose your name from the drop down then save
<input type="checkbox"/> <b>Batch Tracking</b> • Verify correct batch IDs and volumes using both methods below: 1. In Batch Tracking, compare: the batch being pumped to the Active Ticket in the receipt meter the batch being delivered to the Active Ticket in the current delivery meter all other batches in the line to their respective receipt tickets 2. Compare batches in Batch Tracking to the delivery side of the hard copy of the current schedule for the current shift and the following shift. • Check/Add Anomalies • Note PGM Locations	<input type="checkbox"/> <b>Shift Report Program</b> • Open Shift Report Program
	Date: _____ Console #: _____ Initials: _____

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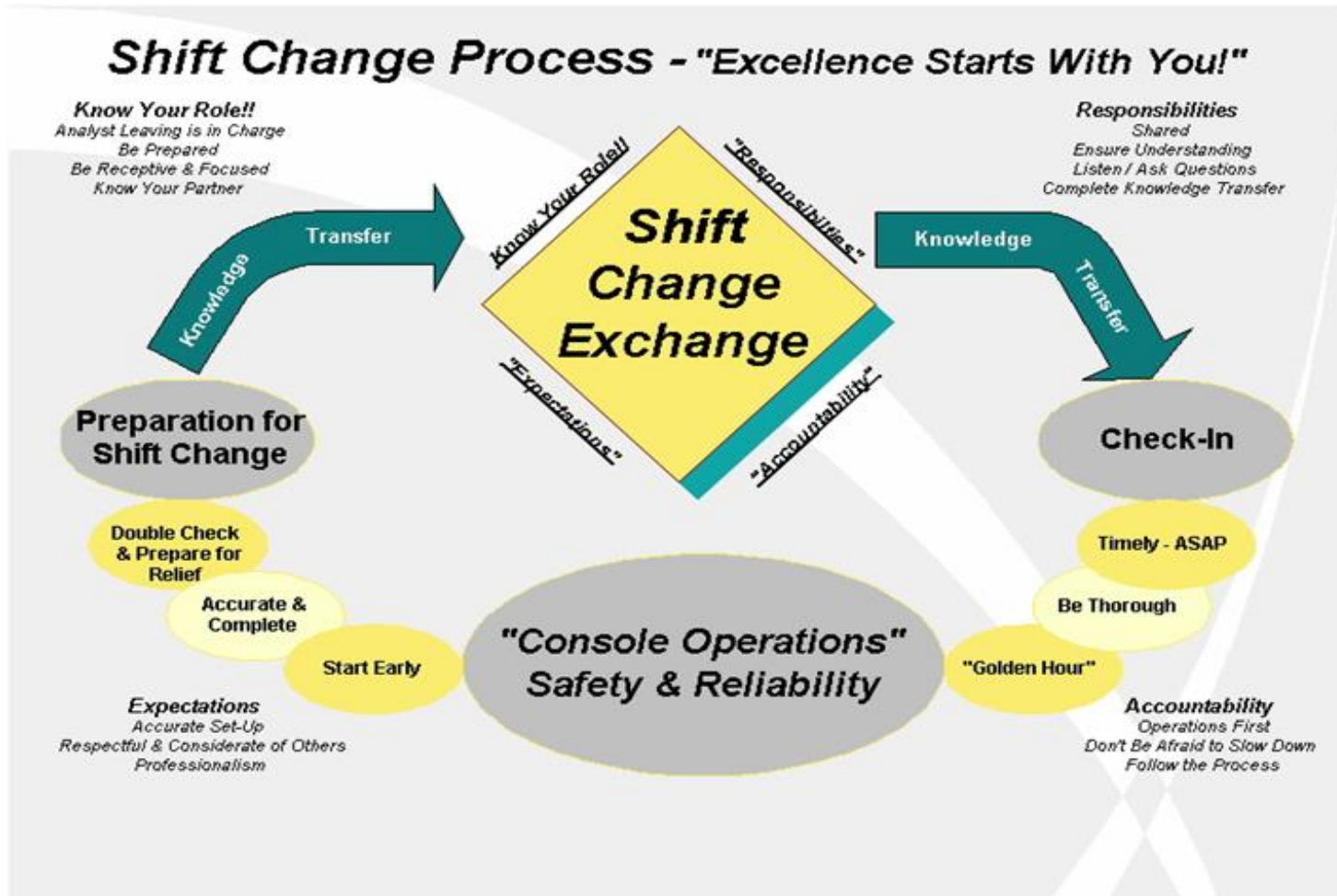
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## Marathon Pipe Line - Shift Change Process

- Training
  - Detailed Review of Process
    - Tools/Documents
    - Classroom Practice
    - Testing
  - Observation
    - Watch Actual shift Change
    - Post Review with Trainer
  - Hands On Training
    - Participation During OJT

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## Review – Take A Ways

- Develop a Good Process
- Train the Process
- Follow the Process Consistently