



Thoughts on a Recent Medgate Implementation

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Marathon

Discussion Topics



- ◆ **Who We Are**
- ◆ **Background on MOC Occ Health System**
- ◆ **Medgate within Marathon**
- ◆ **Gap Analysis**
- ◆ **Implementation**
 - **Base Tables, Notifications, Reports**
- ◆ **Training**
- ◆ **Closing Thoughts**

Who We Are



- ◆ > 120 years in business
- ◆ 4th largest US integrated energy company
 - Strong Upstream growth
 - 5th largest US refiner
 - Expertise across energy chain
 - Technology enabled
- ◆ Focused on profitable growth

Marathon's Business Segments



Exploration & Production



*Refining,
Marketing &
Transportation*



Integrated Gas



Oil Sands Mining

Marathon: > 120 years in business



◆ Corporate

- 36th in 2008 Fortune 500 rankings
- 4th largest U.S. integrated oil company
- 2008 revenues - \$77 billion
- 2008 net income - \$3.5 billion
- 2009 capital, investment and exploration budget \$5.7 billion
- ~ 30,000 Employees

◆ Exploration and Production

- Operations in 10 countries
- 2008 net production sold - 381,000 BOEPD

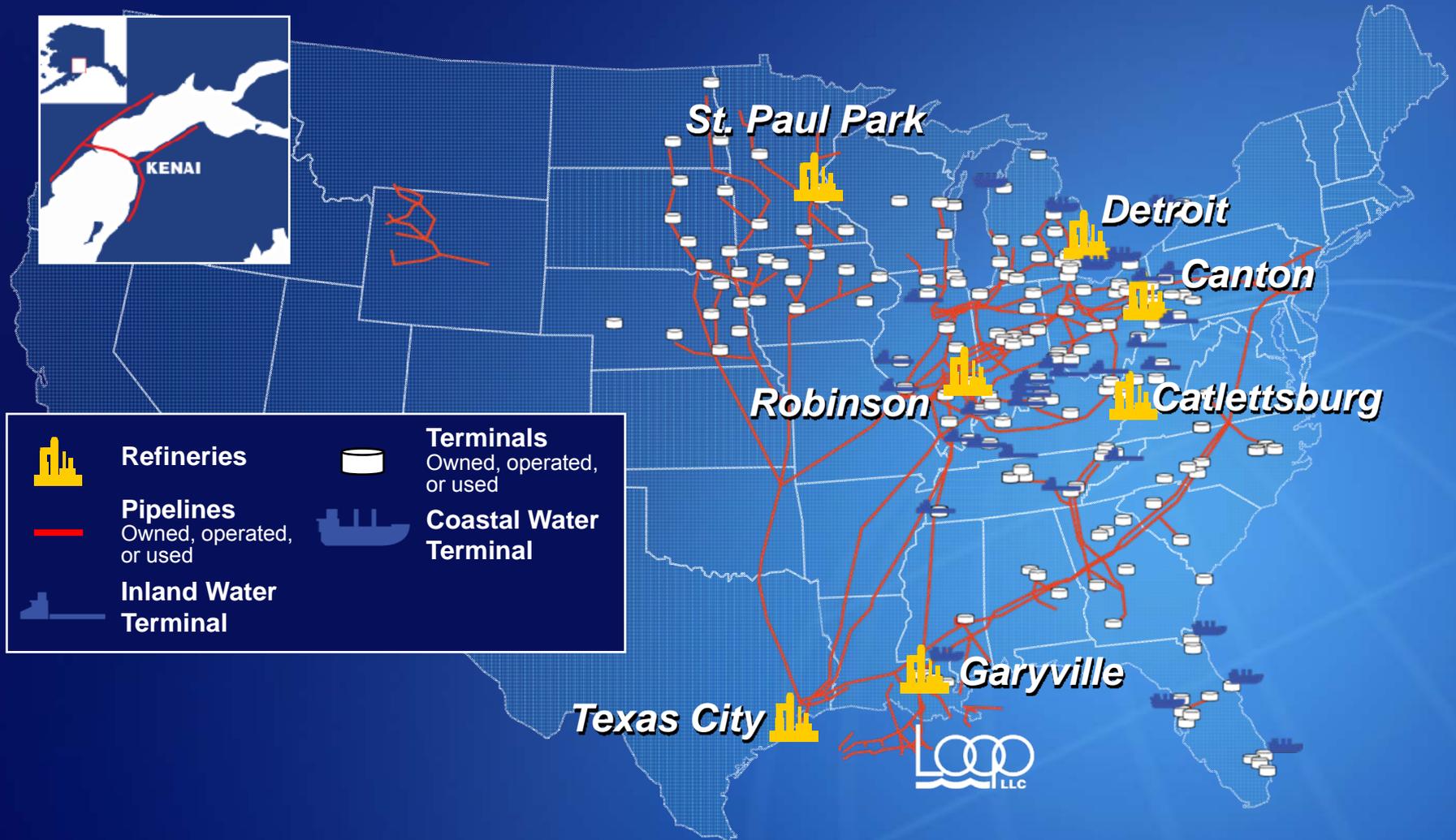
◆ Refining, Marketing & Transportation

- 5th largest U.S. refiner – 1,016,000 BPD refining capacity
- ~1,600 company-owned and ~ 4,600 branded retail locations
- 87 owned and operated light product and asphalt terminals
- Access to ~10,000 miles of pipeline.

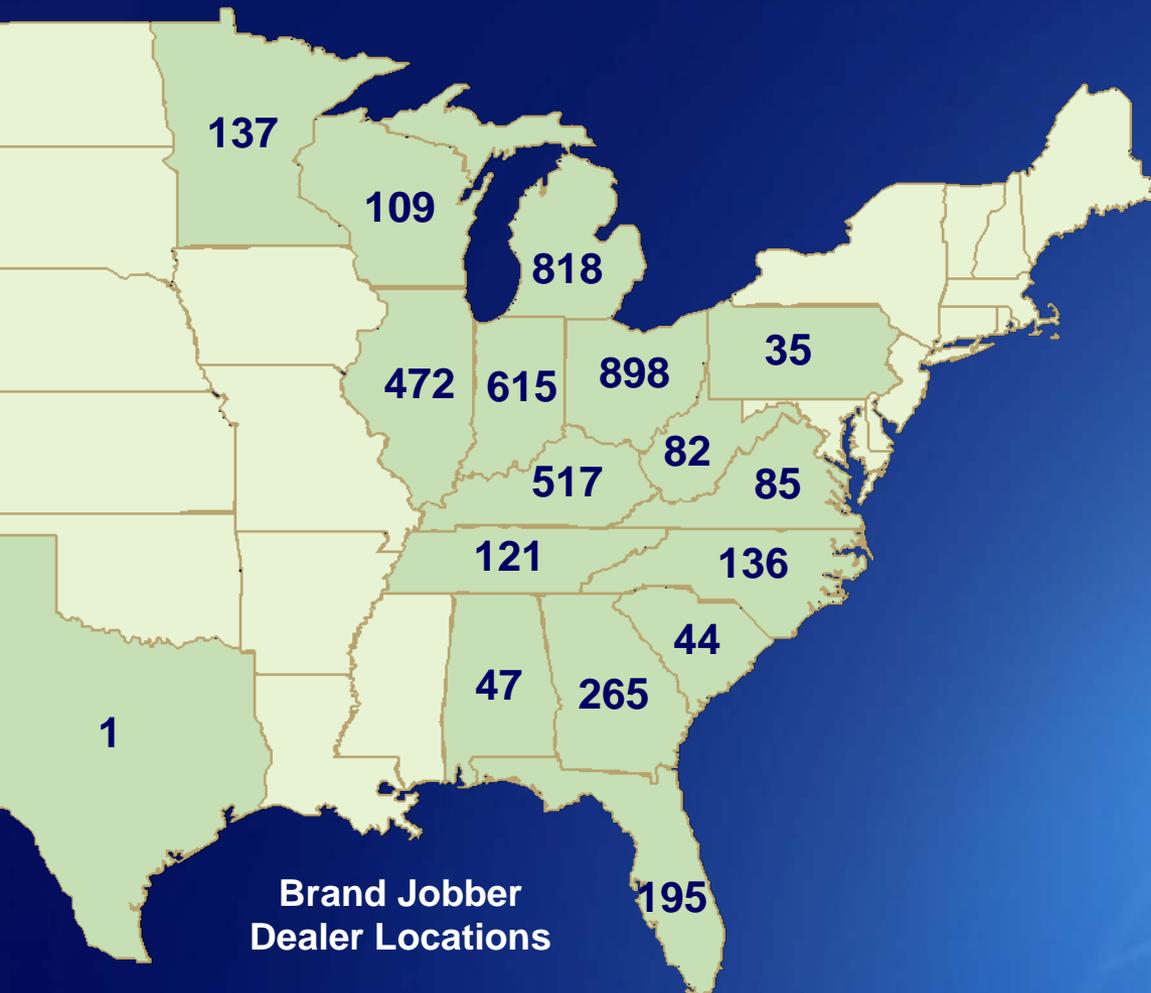
Exploration & Production Focus Areas



RM&T Operations



A comprehensive, integrated focus



**Brand Jobber
Dealer Locations**



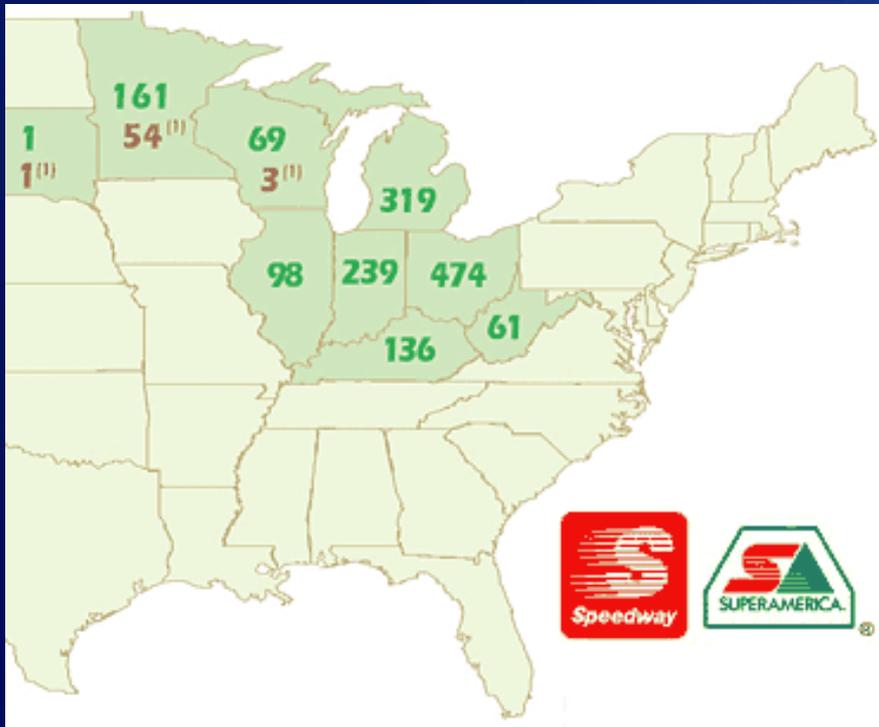
Brand Marketing

**2008 sales: 3.7 billion gallons
4,577 outlets
Located in 17 states**

To learn more about Marathon Brand Marketing, please visit our website at www.marathonpetroleum.com and for station locations, go to www.marathonpetroleum.com/stations/



1



Speedway SuperAmerica LLC

2008 annual sales:

- Approximately 3 billion gallons of gasoline
- 262 million gallons of diesel fuel
- \$2.8 billion merchandise sales

2008 daily sales:

- Serves more than 2 million customers daily
- 8.1 million gallons of gasoline daily

- Approximately 1,600 convenience stores
- Located in 9 states

□ To learn more about Speedway SuperAmerica, please visit our Web site at www.speedway.com and for store locations, www.speedway.com/PrintStoreRoster.asp

Background on Occupational Health System



- ◆ **Medgate selected to replace homegrown mainframe occupational health system developed in early 80s**
 - Decent system with numerous upgrades/added functionality over the years
 - Well established processes
- ◆ **Managed by Corporate Health Services and Corporate Occupational & Environmental Hygiene**
 - Centralized data entry
- ◆ **Component IHs and Component Clinics used system for report generation only**
- ◆ **Three false starts (including Medgate v1)**

Medgate (v6 sp2a) within Marathon



- ◆ **Occupational Health System for Enterprise**
 - Corporate + 18 Components
- ◆ **Medical Module**
 - Clinic Visits
 - Health Monitoring Plans
 - Drug Testing
- ◆ **Industrial Hygiene Module**
 - Exposure Assessment
 - Air/Noise Monitoring
 - Equipment Maintenance
- ◆ **Audit Module**



Gap Analysis



- ◆ **Ensure Gap is performed with the appropriate level of detail**
 - Recommend face to face session
 - “Show Me” attitude will serve you well
 - Document decisions/direction
 - Opportunity to learn system limitations and develop work around

- ◆ **Start a list of Business Rules**

- ◆ **Marathon issues**
 - Lab feed, Notifications, Exposure Assessment

Medgate IH Enhancements



- ◆ **IH Lab Loads**
 - Internally developed custom back end lab feed
- ◆ **Notification Module**
 - Internally developed custom automated notification tool
 - Notifies component IH of overexposures and requires a corrective action plan before notification is generated
- ◆ **Exposure Assessment Custom Changes**
 - Tool enables user to extract data from SEG in order to perform Bayesian Decision Analysis (preformatted for IH Data Analyst)
 - Stores results of BDA from IHDA

Implementation



- ◆ **Resource allocation**
 - IH vs. IT Project Manager
 - Commit seasoned IH professional for 3 mos.
- ◆ **Follow provided Time Line and Order**
 - Base Table/Test Example
 - Data migration
- ◆ **Demographics Mapping**
 - GDDLO Decision
 - Process for contractors
- ◆ **Form Translation**



Implementation



- ◆ **Create Security roles**
 - Corporate IH (admin), Component IH, Contractor/Intern IH, IH Records Processor
- ◆ **SQL 2005 transition caused issues with Medgate reports**
 - Marathon had to use a previous version of the ODBC driver
- ◆ **Medgate database efficiency issues**
 - Marathon IT created additional directories to enhance speed for notifications and reports
- ◆ **Legacy Data Migration**

Implementation – Business Rules



- ◆ Consider the use of prefixes to organize data
 - Contractors
 - Job Titles
 - Samples
 - Surveys
 - Questionnaires
 - Equipment ID
 - SEGs



SEG List



	AMPMNT7	AMPCO Welder
	AMPMNT8	AMPCO Pipe Fabricator
	AMPMNT9	AMPCO Scaffolder
Select Employee	AMPOPR1	AMPCO ISBL Operator Reformer, Boiler, Distillation
Demographics	AMPOPR2	AMPCO ISBL Operator (Compressors)
▶ Medical	AMPOPR3	AMPCO OSBL Op Solar Turbines, RO, Water Treatment
▶ OEH Audit	AMPOPR4	AMPCO OSBL Operator Desalinization RO H2O Intake
▶ Case Management	AMPOPR5	AMPCO HE Operator
▶ OEH	CAN CAT A	Canton Category A Respiratory Protection
▶	CAN CAT B	Canton Category B Respiratory Protection
Reports	CAN CAT C	Canton Category C Respiratory Protection
Base Tables	CAN HCP	Canton Hearing Conservation Program
Report Writer	CAN INASB	Canton Inactive Asbestos Program
Administrator	CANADM1	CAN P&CS Warehouseperson
Change Password	CANADM2	CAN Administrative Support
Logout	CANADM3	CAN Safety Professional
http://www.medgate.com	CANADM4	CAN H&S Representative
http://www.merckmanual.co	CANADM5	CAN Enviromental Professional
http://projects.mgroupnet.co	CANADM6	CAN Engineer
	CANLAB01	CAN Senior Chemist
	CANLAB02	CAN Chemist
	CANLAB03	CAN Tester A
	CANLAB04	CAN Tester A/B
	CANLAB05	CAN Knock Engine Tester
	CANLAB06	CAN Tester GC
	CANLAB07	CAN Lab Extra Operator
	CANMNT01	CAN Pipefitter
	CANMNT02	CAN Welding
	CANMNT03	CAN Carpenter
	CANMNT04	CAN Machinist
	CANMNT05	CAN Electrician

SEG Linked Jobs Example



Linked Jobs	Employees	Recall Definitions	Potential Exposure	PPE		
Job Position	Component	Complex / Area / Region	Unit / Location / Vessel	Reporting Org	Empl Type Group	
CHEMIST (OHIO CHEMIST)	OHIO REF DIV-STAFF (10002290)	All (%)	All (%)	All (%)	All (%)	
ELECTRICIAN (OHIO ELCTRCN)	OHIO REF DIV-STAFF (10002290)	All (%)	All (%)	All (%)	All (%)	
ENGINEER REFINING (OHIO ENGRREF)	OHIO REF DIV-STAFF (10002290)	All (%)	All (%)	All (%)	All (%)	
FOREMAN LABORATORY (OHIO FMANLAB)	OHIO REF DIV-STAFF (10002290)	All (%)	All (%)	All (%)	All (%)	
FOREMAN MAINTENANCE (OHIO FMANMAIN)	OHIO REF DIV-STAFF (10002290)	All (%)	All (%)	All (%)	All (%)	
MGR ENVIRONMENTAL SAFETY & SECURITY (OHIO MGRESS)	OHIO REF DIV-STAFF (10002290)	All (%)	All (%)	All (%)	All (%)	
NURSE CALL N (OHIO NRSECLLN)	OHIO REF DIV-STAFF (10002290)	All (%)	All (%)	All (%)	All (%)	
NURSE OCCUPATIONAL HEALTH (OHIO NRSOCCHLT)	OHIO REF DIV-STAFF (10002290)	All (%)	All (%)	All (%)	All (%)	
PLANNER (OHIO PLANNER)	OHIO REF DIV-STAFF (10002290)	All (%)	All (%)	All (%)	All (%)	
PLANNER REFINING (OHIO PLNNRREF)	OHIO REF DIV-STAFF (10002290)	All (%)	All (%)	All (%)	All (%)	
SPECIALIST E AND (OHIO SPCLENI)	OHIO REF DIV-STAFF (10002290)	All (%)	All (%)	All (%)	All (%)	
SPECIALIST MATERIAL (OHIO SPECMAT)	OHIO REF DIV-STAFF (10002290)	All (%)	All (%)	All (%)	All (%)	
SUPV LABORATORY (OHIO SPVLAB)	OHIO REF DIV-STAFF (10002290)	All (%)	All (%)	All (%)	All (%)	
SUPV MAINTENANCE (OHIO SPVMAINT)	OHIO REF DIV-STAFF (10002290)	All (%)	All (%)	All (%)	All (%)	
SUPV REF ENGINEERING (OHIO SPVREFENG)	OHIO REF DIV-STAFF (10002290)	All (%)	All (%)	All (%)	All (%)	
TESTER (OHIO TESTER)	OHIO REF DIV-STAFF (10002290)	All (%)	All (%)	All (%)	All (%)	
WAREHOUSEMAN (OHIO WHSR)	OHIO REF DIV-STAFF (10002290)	All (%)	All (%)	All (%)	All (%)	

IH Equipment Table



 Select Employee Demographics ▶ Medical ▶ OEH Audit ▶ Case Management ▶ OEH Survey Monitoring Noise Monitoring Requisitions Equipment EXAM Corrective Action Logan Documents Letters ▶ Reports Base Tables Report Writer Administrator Change Password Logout http://www.medgate.com	CAT GAS40	ISC Single Gas H2S		070809-019
	CAT GAS41	ISC Single Gas H2S		051108L-163
	CAT GAS42	ISC Single Gas H2S		070809K-023
	CAT GAS43	ISC Single Gas H2S		070809K-020
	CAT GAS44	ISC Single Gas H2S		06060T1-127
	CAT GAS45	ISC Single Gas SO2		07080Y7-003
	CAT GAS46	ISC Single Gas SO2		07080Y7-005
	CAT GAS47	ISC Single Gas H2		07040NX-002
	CAT GAS48	ISC Single Gas HCN		07041BK-004
	CAT GAS49	ISC Single Gas NH3		060815U-003
	CAT GAS50	ISC Single Gas NH3		060805Q-005
	CAT GAS51	RAE Systems UltraRAE		120-002223
	CAT GAS52	RAE Systems UltraRAE		120-900124
	CAT GAS53	RAE Systems UltraRAE		120-002241
	CAT GAS54	RAE Systems UltraRAE		120-002613
	CAT GAS55	RAE Systems UltraRAE		120-900231
	CAT GAS56	RAE Systems UltraRAE		120-900183
	CAT GAS57	ISC Single Gas CO		07080PW-156
	CAT GAS58	ISC Single Gas CO		071201X-041
		CAT LIGHT01	Extech Instruments Light Meter	
	CAT LIGHT02	Extech Instruments Light Meter		106987
	CAT LIGHT03	Extech Instruments Light Meter		106908
	CAT LIGHT04	Extech Instruments Light Meter		Z079839
	CAT LIGHT05	Extech Instruments Light Meter		Z079848
	CAT LIGHT06	Extech Instruments Light Meter		Z145556
	CAT N CAL01	Quest Technologies QC-10 Accoustic Calibrator		QE8030212
	CAT N CAL02	Quest Technologies QC-10 Accoustic Calibrator		QE2110142
	CAT N CAL03	Quest Technologies QC-10 Accoustic Calibrator		OQ1010276
	CAT N CAL04	Metrosonics (Quest) QC-10 Accoustic Calibrator		PED020032
	CAT N DOS01	Quest Technologies Q-300 Noise Dosimeter		QC8050004
	CAT N DOS02	Quest Technologies Q-300 Noise Dosimeter		QC8050005

Implementation - Base Tables



- ◆ **Prior to building tables ensure understanding of interrelationships**
- ◆ **Medgate example/starter tables**
 - TLV history
 - Unit of Measure
 - Substance table
- ◆ **Allot resources to create thorough pick lists**
 - Too many cooks
 - Easier roll-out

PPE Table



	HEAR BAND	Head Band, Ear Caps
Select Employee	HEAR DUAL	Double Hearing Protection (Ear Plugs and Muffs)
Demographics	HEAR MUFF	Circumaural Muff
► Medical	HEAR OTHER	Hearing Protection (HP), Other
► OEH Audit	HEAR PHONE	Sound Powered Phones
► Case Management	HEAR PLUG1	Earplugs, Disposable
► OEH	HEAR PLUG2	Earplugs, Custom-Sized
Survey	PANTS01	Pants, Flame Resistant
Monitoring	PANTS02	Pants, Cloth
Noise Monitoring	PANTS03	Pants, Chemical Resistant
Requisitions	PANTS04	Pants, Other
Equipment	RESP DUST	Disposable Particulate Respirator
EXAM	RESP FF01	Full-Face APR w/ Particulate Filter
Corrective Action	RESP FF02	Full-Face APR w/ Chemical Cartridge
Logan	RESP FF03	Full-Face APR Combination (Chemical Cartridge/Particulate)
Documents	RESP FF04	Full-Face Air Supplied Respirator
Letters	RESP FF05	Full-Face Abrasive Blasting Hood
►	RESP FF06	Full-Face Self-Contained Breathing Apparatus
Reports	RESP FF07	Full-Face Helmet or Hood Powered Air Purifying Respirator
Base Tables	RESP HF01	Half-Face APR w/ Particulate Filter
Report Writer	RESP HF02	Half-Face APR w/ Chemical Cartridge
Administrator	RESP HF03	Half-Face APR w/ Combination (Chemical Cartridge/Particulate)
Change Password	RESP HF04	Half-Face Air Supplied Respirator
Logout	RESP HF05	Half-Face Powered Air Purifying Respirator
http://www.medgate.com	ROUTINE01	FR Clothing, Hard Hat, Steel-Toed, Safe. Glass
	ROUTINE02	FR Clothing, Hard Hat, Steel-Toed, Safe. Glass, HP
	ROUTINE03	FR Clothing, Steel-Toed Shoes, Safety Glasses
	ROUTINE04	FR Clothing, Steel-Toed Shoes, Safety Glasses, HP
	ROUTINE05	FR Clothing, Steel-toed Shoes, Safety Glasses, PFD Vest
	VEST PFD	Vest, Personal Flotation Device
	VESTCOOL	Vest, Cooling

Task List



IH Tasks List	
Code	Des
CANADM3001	Safety Professional Composite
CANADM6001	Engineer Composite
CANLAB0201	Chemist Composite
CANLAB0301	Tester A Composite
CANLAB0501	Knock Engine Tester Composite
CANLAB0701	Lab Extra Operator Composite
CANMNT0101	Pipefitter Composite
CANMNT0201	Welding Composite
CANMNT0501	Electrician Composite
CANMNT0601	Instrument Technician Composite
CANMNT0801	Maintenance Supervisor Composite
CANMNT1101	Pipefitter Welder Composite
CANOPR0101	1B Operator (North Area) Composite
CANOPR0301	3B Operator (North Area) Composite
CANOPR0501	5B Operator (North Area) Composite
CANOPR0601	6B Operator (North Area) Composite
CANOPR0701	Operations Supervisor (North Area) Composite
CANOPR0901	1A Operator (South Area) Composite
CANOPR1201	4A Operator (South Area) Composite
CANOPR1301	5A Operator (South Area) Composite
CANOPR1401	6A Operator (South Area) Composite
CANOPR1501	Operations Supervisor Composite
CANOPR1801	Waste Treatment Operator Composite
CANOPR1901	Stationary Engineer Composite
CANOPR2001	Water Treatment Composite

Implementation - Questionnaires



- ◆ **Build questionnaires to collect additional information**
 - Cr+6
 - Hot work/welding monitoring
 - Ergonomics evaluation for EA
 - Ventilation



Cr+6 Supplement Info



- Select Employee
- Demographics
- ▶ **Medical**
- ▶ **OEH Audit**
- ▶ **Case Management**
- ▶ **OEH**
- Survey
- Monitoring
- Noise Monitoring
- Requisitions
- Equipment
- EXAM
- Corrective Action
- Logan
- Documents
- Letters
- ▶
- Reports
- Base Tables
- Report Writer
- Administrator
- Change Password
- Logout

IH Samples

List	Main	Details	Substance/Agent	Controls/Tasks	Actions	Questionnaire	Documents	Notes	Le
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Sample No **LRD091005C**

Questionnaire **HEXCHROME** Delete

Question	Response
IH Sample Number	
Hotwork Process	
If "Other," please specify:	
Environment	
If "Other," please specify:	
Inside or Outside?	
Volume Estimate	
Cubic feet (ft3) or cubic meters (m3)?	
Dilution Ventilation?	No
If yes, CFM or m3?	
Local Exhaust Ventilation (LEV)?	No
If yes, f/s or m/s ?	
Post Monitored	
If "Other," please specify:	
Task Monitored	
If "Welding Overlays," please specify:	
If "Other," please specify:	
Monitoring Period Concentration	
ug/m3 or mg/m3?	
Monitoring Period (in minutes):	
8-Hr TWA calculated from Monitoring Period Concentration:	
ug/m3 or mg/m3?	
Sample media placement:	
Analytical technique:	
If "Other," please specify:	
Base Metal	
If "Other Metal," please specify:	
Is the base metal an alloy?	
Number of welders / cutters:	

Implementation – Notifications/Reports



- ◆ **IH with Crystal skills**
- ◆ **Medgate canned reports**
- ◆ **Marathon custom reports**
 - **Exposure Assessment reports**
 - **Exposure Assessment notifications**
 - **Automated quarterly/annual whisker plots by substance**
 - **Fit testing/medical restriction report**
 - **Annual monitoring plan from EA**
 - **Performance Metric report on EA**
 - **Health Monitoring Plan – additions/deletions/transfers**
 - **Preformatted reports for BDA**
 - **Contractor Notifications**

Marathon Notification App





Occupational &
Environmental Hygiene

Development

Edit LocationsEdit Abbreviations

"SEND TO" SETTINGS BY LOCATION

Set if the email will send to employee, supervisor, or IH for a selected location.

Send to:

- Employee
- Supervisor
- IH

- Inactive

New Delete
Update

Marathon Notification Example



MICHIGAN REF DIV-STAFF MICHIGAN REF-TURNAROUND

Position	Employee	Sample Type	Sample No.	Sample Date	Run Time (mins.)	Limit Type	Agent	Results	Marathon Standard	Government Standard
MAINT. YARD (H2SO4 Alkylation Unit)	GARZA, JULIO (000015JGMRD)	Personal	MRD080438C	10/2/2008	363	TWA	NOISE DOSE (Occupational)	99.1 dB	CORP - 90 dB AL - 85 dB	OSHA - 90 dB AL - 85 dB

Activities: Operating pneumatic jackhammer. Cutting into concrete. Cutting into concrete below grade at a 45 degree angle.

PPE: Face Shield; Gloves, Leather; Half-Face APRw/ Combination (Chemical Cartridge/Particulate); FR Clothing, Hard Hat, Steel-Toed, Safe. Glass, HP; FR Clothing, Hard Hat, Steel-Toed, Safe. Glass, HP

Marathon Notification Example



OHIO REF DIV-STAFF OHIO REF-OPERATIONS SOUTH AREA

Position	Employee	Sample Type	Sample No.	Sample Date	Run Time (mins.)	Limit Type	Agent	Results	Marathon Standard	Government Standard
OUTSIDE JOURNEYMAN (Vacuum Distillation / Residuum Stripping)	STUCKEY, STEVEN (00359481E)	Personal	CAN090191	5/5/2009	368	TWA	NOISE DOSE (Occupational)	91.3 dB	CORP - 90 dB AL - 85 dB	OSHA - 90 dB AL - 85 dB
<p>Activities: Inspected the petros heaters, took samples of the VAC bottoms, and inspected 5 pumps.</p> <p>PPE: FR Clothing, Hard Hat, Steel-Toed, Safe. Glass, HP</p>										
OUTSIDE JOURNEYMAN (Vacuum Distillation / Residuum Stripping)	HELANEY, J.D. (00354636E)	Personal	CAN090140	4/3/2009	410	TWA	NOISE DOSE (Occupational)	86.2 dB	CORP - 90 dB AL - 85 dB	OSHA - 90 dB AL - 85 dB
<p>Activities: Started up tail gas compressor, started vac bottom pumps, and collected sample from bulk distillate vac over head water.</p> <p>PPE: FR Clothing, Hard Hat, Steel-Toed, Safe. Glass, HP</p>										

Training



- ◆ Custom User Manual and Admin Manual
- ◆ Access to test environment for training sessions
- ◆ Customize Medgate Training Agenda



Closing Thoughts



- ◆ Surveys?
- ◆ Base Tables, Lab Load Tool, etc.
- ◆ Medgate GX
- ◆ Bayesian Decision Analysis
- ◆ Future benchmarking session...
 - David Ellingsworth cellingsworth@marathonoil.com
 - Scott Jenkins sljenkins@marathonoil.com
- ◆ Thanks and good luck!