

BC24: Enterprise Risk Management and its effective application in developing an organization

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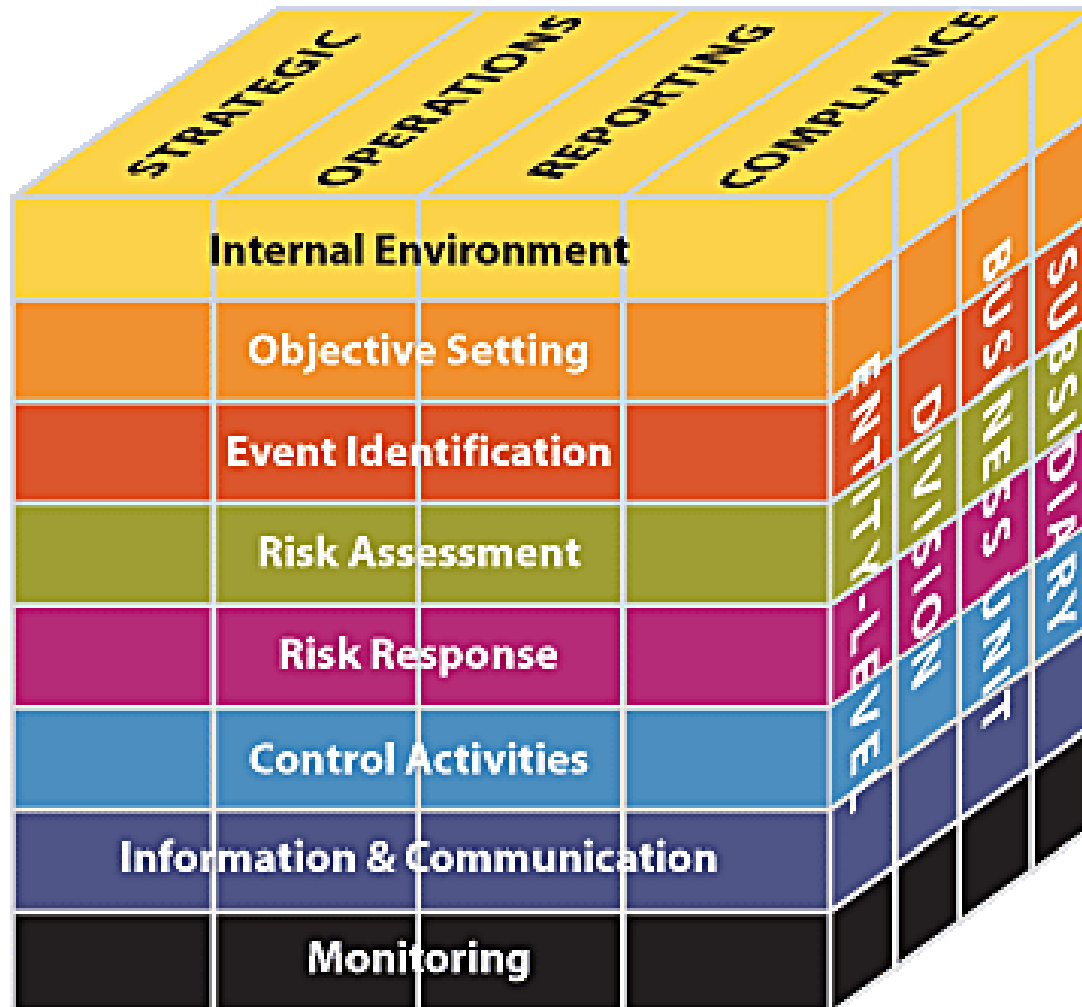
Transmission



Substation



Enterprise Risk Management



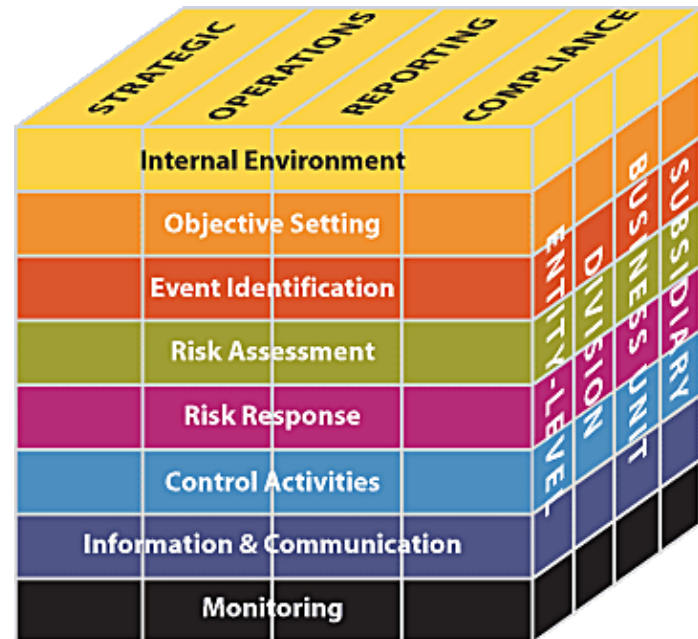
Executive summary and session description

- Case study on successful application of enterprise risk management (ERM) techniques
- Applied to developing an organization and work processes between an electric utility and an electrical construction contractor
- Team of utility, contractor and consultant personnel applied ERM process
- Use of ERM resulted in a substantial reduction of the total risk expenditures, expedited the development of the organization and work processes and benefited the utility and contractor

What is ERM and why should we care?

- **ERM – Enterprise Risk Management** starts with the acknowledgement that risk exists in every management decision and activity that is undertaken and is best represented by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) “Cube”.

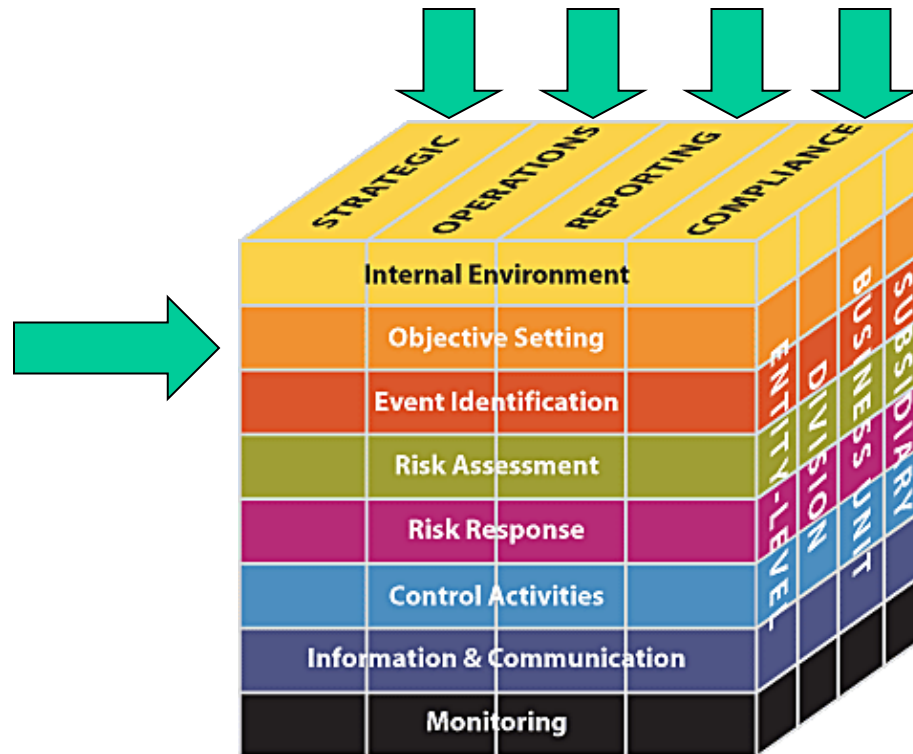
- The ERM process starts at the top with the executive leadership team who must generate the proper **Internal Environment**



What is ERM and why should we care?

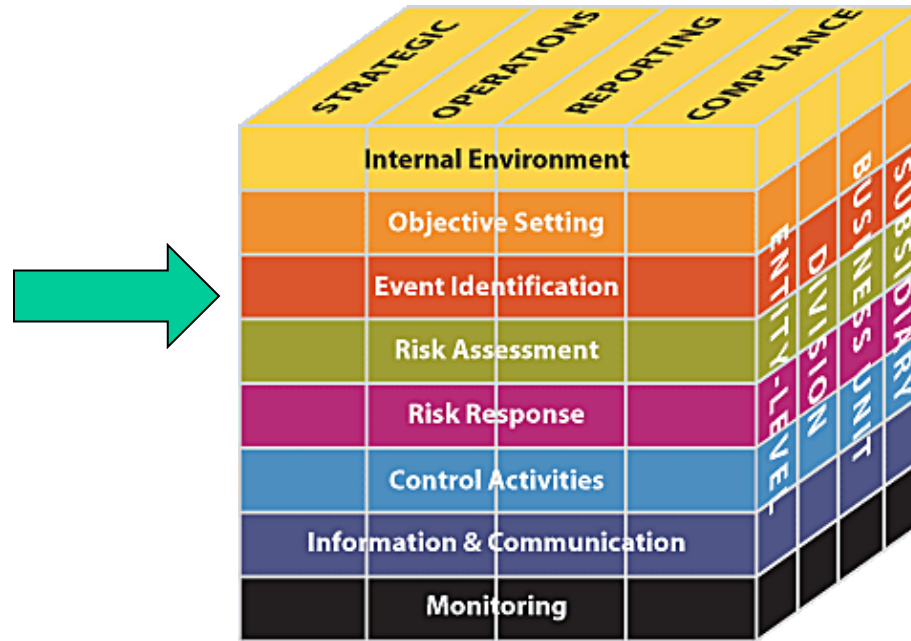
➤ **Objective Setting** can be viewed in the context of four categories:

- Strategic
- Operations
- Reporting
- Compliance



What is ERM and why should we care?

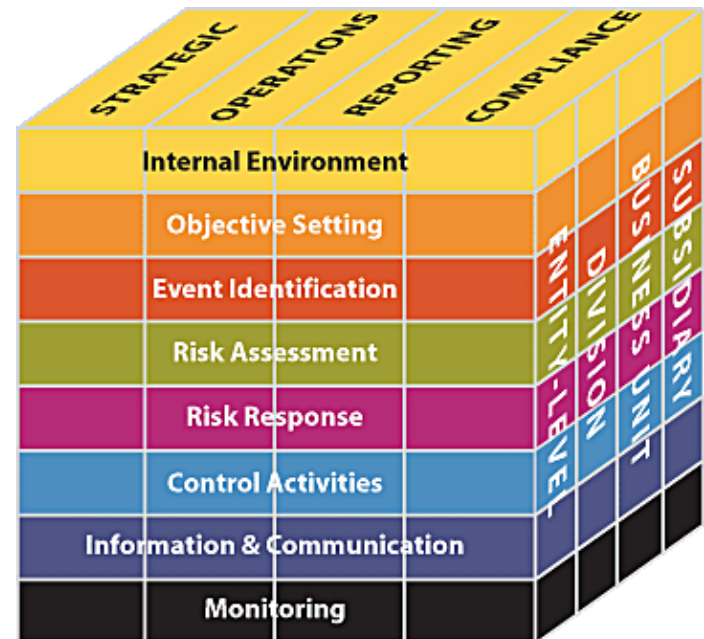
- **Event Identification** includes both internal as well as external influences that can impact the ability to successfully achieve objectives.
- Events should include positive as well as negative influences.



What is ERM and why should we care?

➤ **Risk Assessment** should apply a probabilistic approach to two categories:

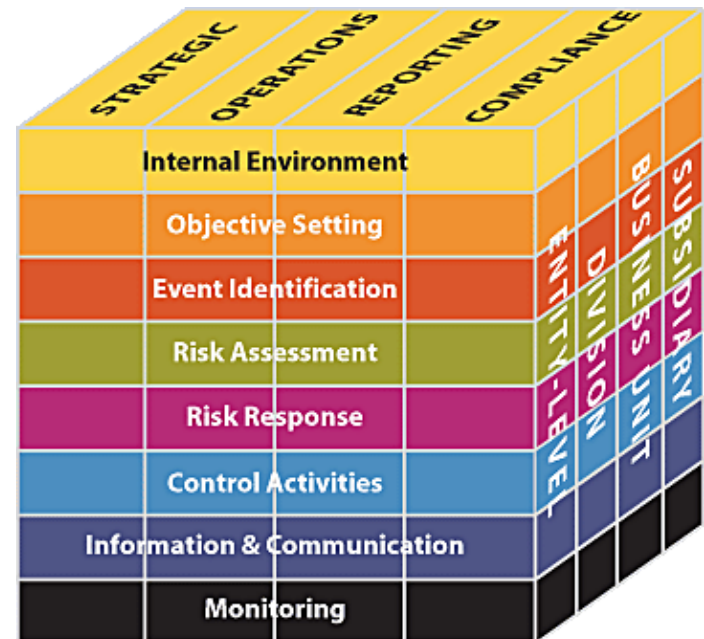
- 1) the likelihood of each event, and
- 2) the potential impact of each event.



What is ERM and why should we care?

➤ **Risk Response** will vary depending on the strategic risk objectives set by management:

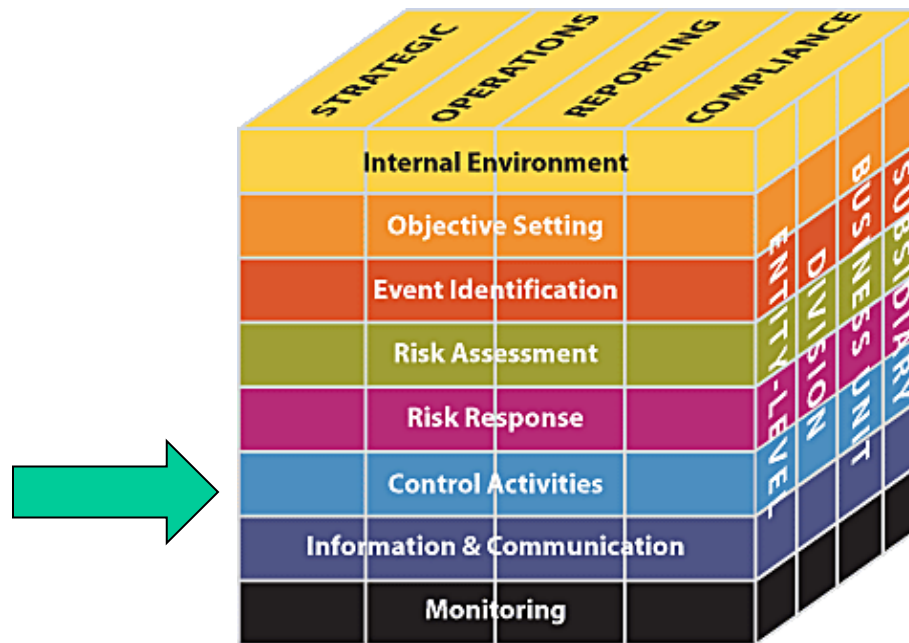
- 1) Avoid the risk
- 2) Accept the risk
- 3) Reduce the risk
- 4) Share the risk



What is ERM and why should we care?

➤ **Control Activities** must be established to ensure that the risk responses are effectively carried out to achieve the accuracy, consistency, predictability, and repeatability necessary for success and include:

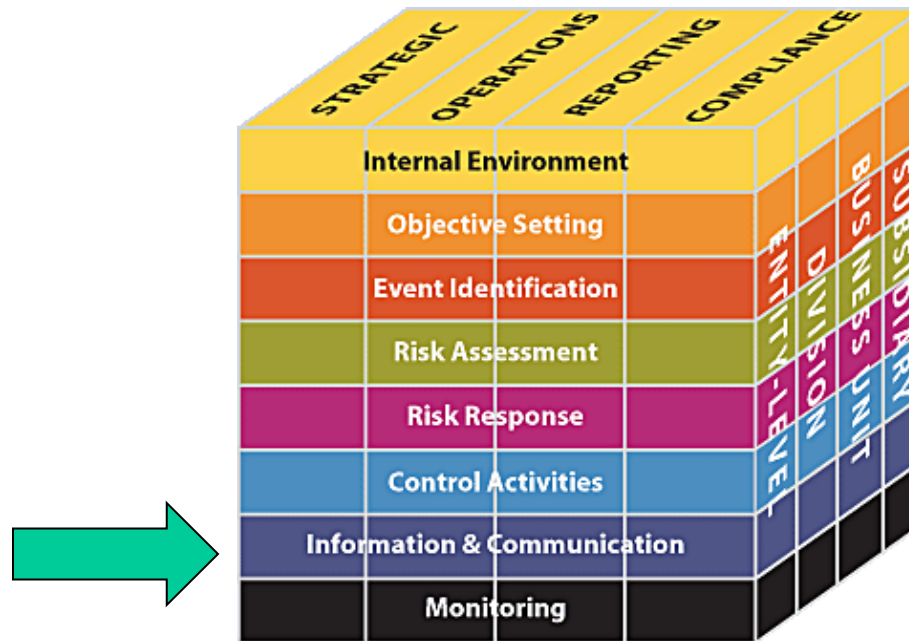
- 1) Policies
- 2) Procedures
- 3) Processes
- 4) Tools



What is ERM and why should we care?

➤ **Information & Communication** is essential in every business.

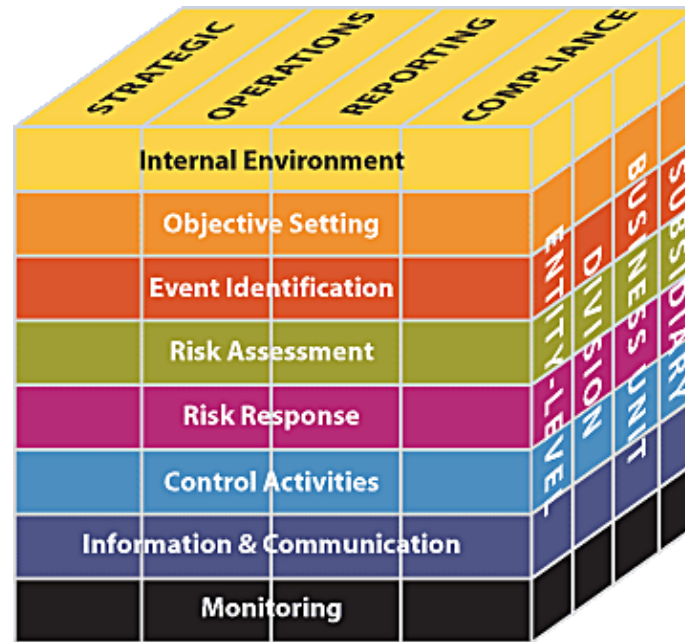
ERM acts as a conduit to allow critical and relevant information to be identified and relayed in a timeframe to allow the data to be used to make better business decisions.



What is ERM and why should we care?

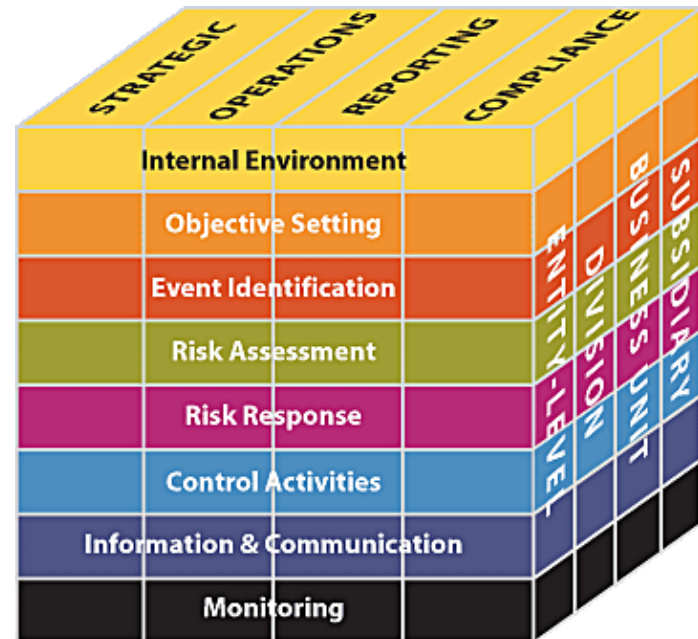
➤ **Monitoring** is accomplished through on-going management activities such as :

- 1) Reports
- 2) Peer Reviews
- 3) Internal Audits
- 4) External Audits



What is ERM and why should we care?

- The operational control generated by an effective communication, monitoring, and reporting process is what truly impacts an organization's ability to react to changing conditions.
- The quicker an organization can react, the higher the probability that:
 - 1) negative risks can be turned into positive opportunities
 - 2) efficiency will increase
 - 3) better-informed decisions are made
 - 4) the bottom-line is improved



How was ERM used to develop the Alliance objectives?

Utility's Internal Environment & Risk Management Approach

- Enter into alliance agreements with the belief that this would accomplish the following:
 - 1) Share the risks
 - 2) Contribute to mutual growth and profit
 - 3) Promote continuous improvement
 - 4) Share dedication to the customer
 - 5) Communicate with clarity and purpose

- Using ERM framework provided a structured approach to implement the alliance relationship

How was ERM used to develop the Alliance objectives?

Strategic Objectives

- Complete the portfolio of projects safely (as measured by OSHA Incident Frequency rates less than industry averages)
- Complete projects on time (i.e. meet in-service dates)
- Complete projects within the budgeted cost (within 10%)
- Predict cash flows accurately (within 10% on a three month rolling average)

(Developed by utility's Board of Directors and Executive leadership)

How was ERM used to develop the Alliance objectives?

Operations Objectives

- Work as an integrated project team with utility personnel in the lead role and the contractor personnel as team members
- Complete the specific list of projects assigned to the portfolio and meet the internal and external customer-driven in-service dates
- Do not exceed budgeted or approved dollar amounts
- Levelize field resources to make effective and efficient use of the same personnel over a long period of time
- Complete designs well in advance of construction
- Balance seasonal and electric system outage considerations

(Developed by utility's portfolio management and contractor leadership)

How was ERM used to develop the Alliance objectives?

Reporting Objectives

- Generate accurate project costs estimates early in a project's life cycle
- Report & forecast work complete, dollars spent, EAC, status and remaining risk at a portfolio and project level timely and accurately

Compliance Objectives

- Comply with utility's internal financial and accounting practices
- Comply with electrical contractor's financial and accounting practices.

(Developed by utility portfolio management and contractor leadership)

How did we use ERM to build an organization?

“Event Identification and **Risk/Opportunity Assessment**”

- Alliance contracting new to both utility and contractor personnel
- Team approach must be embraced by both utility and contractor
- Personnel in organization must understand and “buy into” the objectives

(Identified through early meetings of the core team)

How did we use ERM to build an organization?

“Risk Response Initiatives”

- Creation of clearly defined roles and responsibilities
- Regular joint training of personnel (utility and contractor)
- Move decision making down to the lowest level possible (empowerment)
- Incentivize personnel in objective achieve through link to individual performance awards

(Identified by the core team)

How did we use ERM to build an organization?

“Control Activities”

- Written roles and responsibilities only change w/concurrence by core team
- Input and participation from all levels of the staff in joint training sessions and use of facilitated lessons learned discussions
- Holding staff personnel to high performance expectations related to decision making and accountability

(Used by the core team)

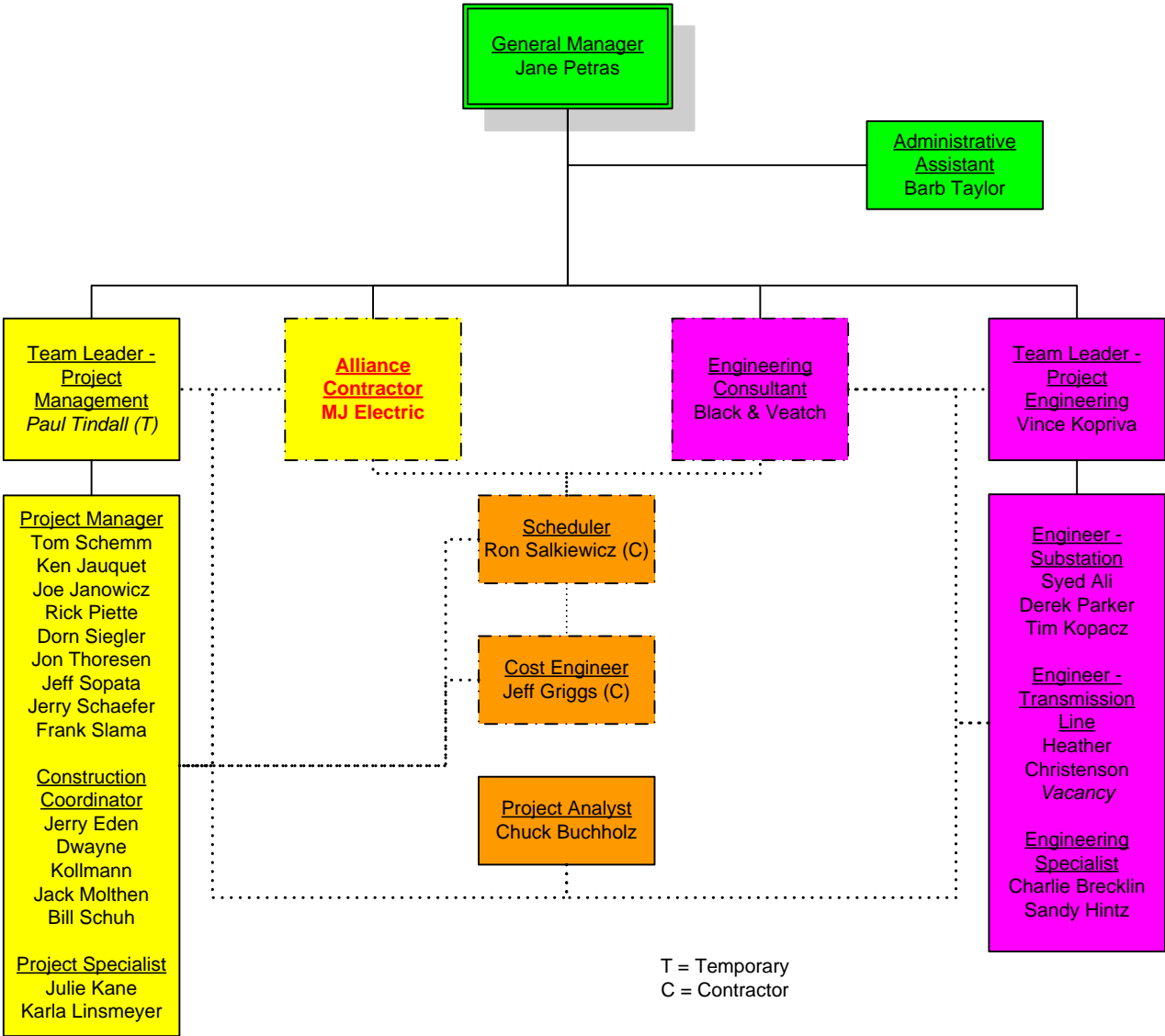
How did we use ERM to build an organization?

“Information, Communication and Monitoring”

- Regular informal feedback discussions
- Discussions resulted in on-going enhancements and refinements to the organization

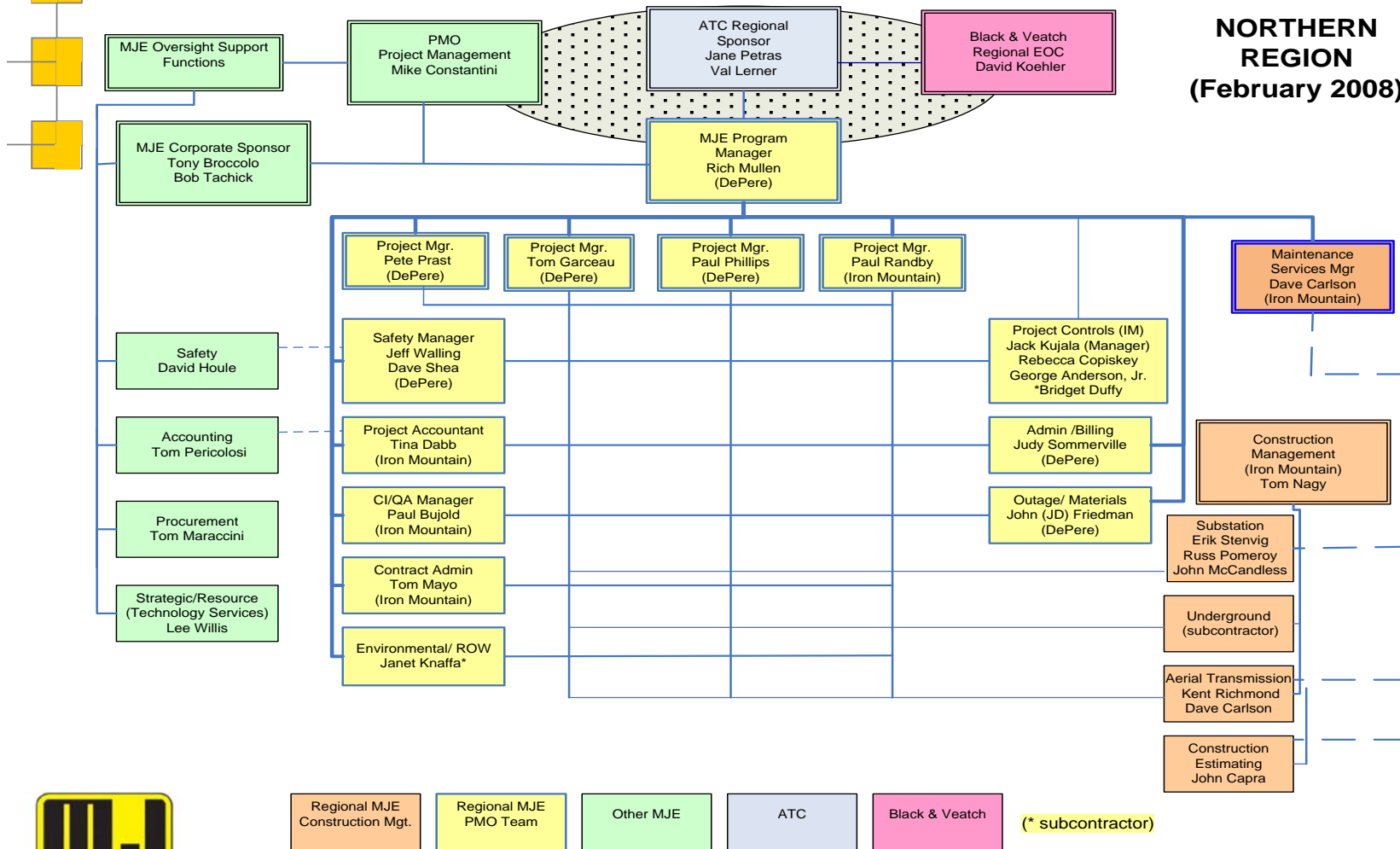
(At the core team level)

North Portfolio Organization, January 2008



ATC / MJ Electric Alliance

**NORTHERN
REGION
(February 2008)**



A QUANTA SERVICES COMPANY

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How did we use ERM to build work processes?

“Event Identification and Risk/Opportunity Assessment”

- Project Scope Definition
- Project Planning
- Mitigate weather, unknown site conditions and system outage constraint risks
- Manage material/equipment procurement
- Perform safely in the field
- Design quality

(Identified by teams comprised of staff members)

How did we use ERM to build work processes?

“Risk Response Initiatives”

- Project Challenge Process
- Preparation of documented project schedules
- Project planning around seasons
- Collection of site data
- Frequent communication with material/equipment suppliers
- Constructability reviews of designs

(Identified by teams comprised of staff members)

How did we use ERM to build work processes?

“Control Activities”

- Prescribed in writing and only changed with approval by core team
- Work practices rolled out in training sessions
- Feedback provided to staff on performance
- Continual review of practices for improvement

(Managed by the core team)

How did we use ERM to build work processes?

“Information, Communication & Monitoring”

- Standard reporting practices by project and overall for the portfolio
- Standard review meetings by project and overall portfolio
- Multiple channels for communicating opportunities for improvement (continuous improvement culture)

(Used by the whole organization)

What was the customer's reaction to the ERM application?

- Strategic objectives mostly being achieved (largely in part attributable to using ERM framework to develop the alliance)
- Risk is being shared between utility and contractor
- Overall management of multiple risks and goals has been simplified
- ERM model fast-tracked the development of the alliance organization and work practices
- Positive impacts on the utility and the contractor

What specific control tools were used to manage key risks?

- Risk Management Tools
 - Graded Approach
 - Probabilistic Risk Matrix
 - Resource Loaded Schedule
 - Production Curves
- Management Reviews
 - Weekly Project Meetings
 - Monthly Program Meetings

Graded – Approach 2007 Projects

PROJECT DESCRIPTION	ESTIMATE (in 000's)	GRADED APPROACH LEVEL
Y103 69kV Insulator Repl on Structure 116 for Streetlight Clearance	\$5	1
Presque Isle Switchyard - Replace 138kV Switch 18	\$57	1
Emergency replacement of insulators on structure 88 on line R-304	\$38	1
KK64441/KK64451-Repair Structure 1413	\$70	1
Line O15 DOT H Structure Relocations	\$91	1
Tap 69kV Forsyth-Candler Line into new WE Watson SS	\$284	1
138kV Line 29061 Arnold - Forsyth Line Up-rate	\$181	1
138Kv Line 446 Presque Isle - National Line Up-rate	\$148	1
Line 6908 Emergency Clearance Work 69kV Hiawatha-Indian Lake	\$283	1
Relocate 5-6 str on T46 in Sturgeon Bay for New Bridge	\$141	1
138kV Line 468 Presque Isle - Perch Lake Line Up-rate	\$256	1
Rapids & Revere SS - Replace Relays, CCVT, etc.	\$644	1
Venus SS Replace T-124 OCB, Add BT Sw & PT's	\$439	1
Canal SS 69kV Cap Bank (Above grade only)	\$1,857	2
Ontonagon SS Cap Bank (Above grade only)	\$2,008	2
Gwinn & Forsyth SS Equipment Upgrades	\$1,572	2
9 Mile SS - Install 2 - 8.16 MVAR 69kV Cap Banks, 1 CB & 2 CS	\$1,397	3
Straits SS - Install 2nd 138-69kV 100 MVA Tr, Control House, Etc.	\$3,078	3
Ellinwood-Sunset Point New 138kV Transmission Line	\$6,296	3
New Aspen SS and Brule SS Equipment Removal	\$7,119	3
Venus to Metonga 115kV line and associated work at Venus SS	\$10,056	3
Completed Projects in 2007	\$36,020	

v Risk	<input type="checkbox"/> Standard Risk	<input type="checkbox"/> High Risk
v Risk	<input type="checkbox"/> Standard Risk	<input type="checkbox"/> High Risk
v Risk	<input type="checkbox"/> Standard Risk	<input type="checkbox"/> High Risk
v Risk	<input type="checkbox"/> Standard Risk	<input type="checkbox"/> High Risk

30,000 3,000,000	GRADED LEVEL, including risk modifier per Graded Approach General Guide:	
	<input type="checkbox"/> Level 1	Comments:
	<input type="checkbox"/> Level 2	
	<input checked="" type="checkbox"/> Level 3	
	<input type="checkbox"/> Level 4	

Project over \$1,000,000 and less than \$4,000,000
Senior Vice President Approval:

Farrington, Ed

Project over \$4,000,000 and less than \$10,000,000
MJE President/Executive Vice President Approval:

Pasch, Peter or Reiten, Steve

Complexity of the Work -	Column A	Column B	Comments
Is this new construction or re-fit/build?	<input type="checkbox"/> New	<input checked="" type="checkbox"/> Re-Fit/Build	None
Is the project outage driven/reliant?	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	None
Is there coordination with other contractors outside of proper management control?	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	None
Are there significant compliance drivers (regulatory, QA/QC, customer hold-points, etc.)?	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	None
Is the project fully designed/engineered or "fast-track"?	<input checked="" type="checkbox"/> Designed	<input type="checkbox"/> "Fast-Tracked"	None
Are there "constructability" or "changing condition issues"?	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	None
Is this project squarely within IFS bandwidth of performance expertise?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	None
Are there unusual/significant environmental challenges (weather, terrain, archeological)?	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	None
Are there unusual regulatory constraints (e.g. performance in California, incomplete "right of way" issues)?	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	None
	7 Total A's	2 Total B's	
	0 to 2 Column B Factors - Low Risk	3 to 5 Column B Factors -Standard Risk	>5 Column B Factors - High Risk

Financial Impact of Risk -	Column A	Column B	Comments
Is the contingency/reserve for risk greater than a nominal percent (10%) of the total price?	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	None
Could the cumulative financial impact of all risk factors in a worst-case scenario drive the project to a net loss against cost (total price minus profit minus G and A minus actual risk impact < total actual cost)?	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	None
Does the value or visability of the project have significant impact on image and/or financial welfare of the operating company and/or corporation?	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	None
Will performance have significant impact to ongoing operations of the operating company and/or corporation?	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	None
	4 Total A's	0 Total B's	
	0 to 2 Column B Factors - Low Risk	3 to 5 Column B Factors -Standard Risk	>5 Column B Factors - High Risk

Customer and Span of Control Factors -	Column A	Column B	Comments
Is this a new customer and/or new customer representatives (points of contact)?	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	None
Is there prior history with the customer and/or customer representatives (positive or negative)?	<input checked="" type="checkbox"/> Yes/Positive	<input type="checkbox"/> No/Negative	None
Are there customer funding constraints?	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	None
Will customer be directly involved in management of the project or "hands-off"?	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	None
Is this project EPC with IFS performing on a turnkey basis?	<input checked="" type="checkbox"/> Designed	<input type="checkbox"/> "Fast-Tracked"	None
Are critical performance requirements "provided by others" (client or client or client's sub)?	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	None
	5 Total A's	1 Total B's	
<div style="display: flex; justify-content: space-between;"> 0 to 2 Column B Factors - Low Risk 3 to 5 Column B Factors -Standard Risk >5 Column B Factors - High Risk </div>			

Schedule Factors -	Column A	Column B	Comments
Was the performance schedule built by IFS estimators or dictated by client requirements?	<input checked="" type="checkbox"/> IFS	<input type="checkbox"/> Client	None
How "tight" is the performance schedule (how much float exists - maybe by % of total project)?	<input checked="" type="checkbox"/> > 10%	<input type="checkbox"/> < 10%	None
What is the financial impact of shortening /or extending critical path (perhaps by % of total profit, or total number of days or percent of total project days until project reaches net loss status)?	<input checked="" type="checkbox"/> <5% of total net profit per week of critical path	<input type="checkbox"/> >5% of total net profit per week of critical path	None
Are there Liquidated Damages (LD's) or early completion incentives?	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	None
	4 Total A's	0 Total B's	
<div style="display: flex; justify-content: space-between;"> 0 to 2 Column B Factors - Low Risk 3 to 5 Column B Factors -Standard Risk >5 Column B Factors - High Risk </div>			

Resource Factors -	Column A	Column B	Comments
Is there a known shortage of available skilled professional and/or craft labor to complete the project work?	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	None
Are there unusually restrictive union work rules or organized labor unrest?	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	None
Are there unusual elements of worker health and safety concerns?	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	None
Is there a disproportionately high or low allocation (or percentage) of cost for equipment and maintenance?	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	None
Is there a disproportionately high or low allocation (or percentage) of non-IFS owned/controlled equipment in the project resource allocation?	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	None
Are there sufficient equipment redundancies/contingency options?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	None
	6 Total A's	0 Total B's	
<div style="display: flex; justify-content: space-between;"> 0 to 2 Column B Factors - Low Risk 3 to 5 Column B Factors - Standard Risk >5 Column B Factors - High Risk </div>			

SubContracted Work Impact -	Column A	Column B	Comments
What percentage of total project is subcontracted?	<input checked="" type="checkbox"/> < 20%	<input type="checkbox"/> > 20%	None
What is the overall financial impact of subcontractor failed performance (i.e. net effect on project critical path as a percentage of the total job)?	<input checked="" type="checkbox"/> < 10%	<input type="checkbox"/> > 10%	None
Does the project involve new "significant" subs or tried.. true past performers?	<input checked="" type="checkbox"/> Past Performer	<input type="checkbox"/> New	None
Do subcontractor constraints exist (their financial, resource.. commitment health) especially relating to other project involvements?	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	None
Are IFS "sister" operating companies performing significant portions of the work?	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	None
	5 Total A's	0 Total B's	
<div style="display: flex; justify-content: space-between;"> 0 to 2 Column B Factors - Low Risk 3 to 5 Column B Factors - Standard Risk >5 Column B Factors - High Risk </div>			

Probabilistic Risk and Opportunity Matrix

Risk Event	Impact	Mitigation	Mitigation Tracking	Low Impact	High Impact	Baseline Estimated Probability of High Impact	Baseline Estimated Dollars at Risk	Current Probability of High Impact	Current Dollars at Risk
Transmission Line									
Rock Drilling - Direct Embed	Construction Cost Increase & possible schedule delays		Track drilling efforts at each location	\$0	\$93,280	75%	\$69,960	50%	\$46,640
Cobble Drilling - Direct Embed	Construction Cost Increase & possible schedule delays		Track drilling efforts at each location	\$0	\$37,280	75%	\$27,960	75%	\$27,960
Casing - Direct Embed	Construction Cost Increase & possible schedule delays		Track efforts at each location	\$0	\$89,123	50%	\$44,562	25%	\$22,281
Rock Drilling - Concrete Fnds.	Construction Cost Increase & possible schedule delays		Track drilling efforts at each location	\$0	\$170,400	60%	\$101,610	0%	\$0
Cobble Drilling - Concrete Fnds.	Construction Cost Increase & possible schedule delays		Track drilling efforts at each location	\$0	\$79,380	33%	\$26,457	0%	\$0
Special Foundation #V01	Construction Cost Increase & possible schedule delays		Track efforts at each location	\$0	\$23,980	50%	\$11,990	25%	\$5,995
Special Foundation #V02	Construction Cost Increase & possible schedule delays		Track efforts at each location	\$0	\$15,320	50%	\$7,660	25%	\$3,830
Special Foundation #V03	Construction Cost Increase & possible schedule delays		Track efforts at each location	\$0	\$49,130	40%	\$19,652	25%	\$12,283
Matting	Construction Cost Increase & possible schedule delays		Track efforts at each location	\$0	\$399,595	25%	\$99,899	25%	\$99,899
Foundation Remobilization	Construction Cost Increase & possible schedule delays	Insure all anchor bolts on site prior to start of foundation work.	Track efforts at each location	\$0	\$4,200	0%	\$0	0%	\$0
Clearing Remobilization	Construction Cost Increase & possible schedule delays	Insure all easements are in place prior to start of construction.	Track efforts at each location	\$0	\$5,775	0%	\$0	0%	\$0
Weather Impacts	Construction Cost Increase & possible schedule delays		Track efforts at each location	\$0	\$122,475	48%	\$58,323	48%	\$58,788
Material Delivery Delays	Construction Cost Increase & possible schedule delays	Work with material suppliers to properly sequence delivery dates and also have MJE add labor crews upon delivery	Track efforts at each location	\$0	\$110,600	50%	\$55,300	50%	\$55,300
SUBTOTAL Transmission Line				\$0	\$1,200,538		\$523,461		\$332,975



Laurium #1-Rebuild Line (69kV)



Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float	Physical % Complete	2007												2008											
								December				January				February				March				April							
Total		183	66	26-Mar-07 A	04-Apr-08	0		[Gantt chart bars for Total]																							
67225 Laurium #1-Rebuild Line (69kV)		183	66	26-Mar-07 A	04-Apr-08	0		[Gantt chart bars for 67225 Laurium #1-Rebuild Line (69kV)]																							
67225.100 Pre-Construction Professional Services		77	0	26-Mar-07 A	21-Sep-07 A	0	0%	[Gantt chart bars for 67225.100 Pre-Construction Professional Services]																							
202 Pre-Construction Prof. Services		75	0	26-Mar-07 A	21-Sep-07 A		100%	[Gantt chart bars for 202 Pre-Construction Prof. Services]																							
67225.200 Laurium Construction Administration		180	65	30-Aug-07 A	01-Apr-08	3		[Gantt chart bars for 67225.200 Laurium Construction Administration]																							
200 Construction Administration		182	66	30-Aug-07 A	01-Apr-08	3	26%	[Gantt chart bars for 200 Construction Administration]																							
67225.300-64338 Rebuild Atlantic Mine to Osceola		175	66	17-Jul-07 A	04-Apr-08	0		[Gantt chart bars for 67225.300-64338 Rebuild Atlantic Mine to Osceola]																							
302 Receive Tower Mod		3	0	17-Jul-07 A	17-Jul-07 A		100%	[Gantt chart bars for 302 Receive Tower Mod]																							
318 Receive balance of Matl		3	23	17-Jul-07 A	31-Jan-08	46	90%	[Gantt chart bars for 318 Receive balance of Matl]																							
301 Mobilization		10	0	08-Aug-07 A	25-Sep-07 A		100%	[Gantt chart bars for 301 Mobilization]																							
323 Rebuild Atlantic/Canal - Distr. Work by UPCCO		23	0	06-Aug-07 A	14-Sep-07 A		100%	[Gantt chart bars for 323 Rebuild Atlantic/Canal - Distr. Work by UPCCO]																							
304 Receive Poles 151 - 175		6	0	08-Aug-07 A	23-Aug-07 A		100%	[Gantt chart bars for 304 Receive Poles 151 - 175]																							
317 Field Supv. & Support		166	64	08-Aug-07 A	28-Mar-08	5	43%	[Gantt chart bars for 317 Field Supv. & Support]																							
345 T&M Extra Work		161	64	13-Aug-07 A	28-Mar-08	5	54%	[Gantt chart bars for 345 T&M Extra Work]																							
319 ROW Access/Clean-up		161	64	14-Aug-07 A	28-Mar-08	5	37%	[Gantt chart bars for 319 ROW Access/Clean-up]																							
339 ROW Clearing		31	0	15-Aug-07 A	08-Oct-07 A		100%	[Gantt chart bars for 339 ROW Clearing]																							
343 Install/Remove Mats		132	59	15-Aug-07 A	21-Mar-08	10	21%	[Gantt chart bars for 343 Install/Remove Mats]																							
307 1st Outage Laurium 1 Atl - Tap/ Maintenance		48	0	20-Aug-07 A	17-Dec-07 A		100%	[Gantt chart bars for 307 1st Outage Laurium 1 Atl - Tap/ Maintenance]																							
303 Modify Tower at Canal Crossing		10	0	20-Aug-07 A	31-Aug-07 A		100%	[Gantt chart bars for 303 Modify Tower at Canal Crossing]																							
341 Remove Wire-Area 1-3		79	0	24-Aug-07 A	17-Dec-07 A		23%	[Gantt chart bars for 341 Remove Wire-Area 1-3]																							
325 Rebuild Atlantic/Canal - Install Poles (25 ea)		24	0	28-Aug-07 A	12-Oct-07 A		100%	[Gantt chart bars for 325 Rebuild Atlantic/Canal - Install Poles (25 ea)]																							
349 Haul Steel Poles- Area 1-3		30	0	28-Aug-07 A	17-Dec-07 A		100%	[Gantt chart bars for 349 Haul Steel Poles- Area 1-3]																							
347 Framing/Anchors/Grounding Area1-3		30	0	05-Sep-07 A	17-Dec-07 A		28%	[Gantt chart bars for 347 Framing/Anchors/Grounding Area1-3]																							
305 Receive Poles 170 - 190		5	0	11-Sep-07 A	28-Sep-07 A		100%	[Gantt chart bars for 305 Receive Poles 170 - 190]																							
351 Place and Pick Guard Poles		9	64	17-Sep-07 A	28-Mar-08	5	38%	[Gantt chart bars for 351 Place and Pick Guard Poles]																							
305 Rebuild Atlantic/Canal - Install Foundations 156,174,175		8	0	25-Sep-07 A	05-Oct-07 A		100%	[Gantt chart bars for 305 Rebuild Atlantic/Canal - Install Foundations 156,174,175]																							
312 Rebuild 13188/13199 - Install Poles (11 ea)		5	0	28-Sep-07 A	05-Dec-07 A		100%	[Gantt chart bars for 312 Rebuild 13188/13199 - Install Poles (11 ea)]																							
327 Rebuild Atlantic/Canal - Install Wire (1.8 m)		19	0	01-Oct-07 A	25-Oct-07 A		100%	[Gantt chart bars for 327 Rebuild Atlantic/Canal - Install Wire (1.8 m)]																							
306 Receive Poles 200 - 311		10	0	09-Oct-07 A	12-Oct-07 A		100%	[Gantt chart bars for 306 Receive Poles 200 - 311]																							
313 Rebuild Tap To Str #113199 - Install Poles (56 ea)		32	0	15-Oct-07 A	17-Dec-07 A		100%	[Gantt chart bars for 313 Rebuild Tap To Str #113199 - Install Poles (56 ea)]																							
337 Rebuild Tap to Str #113199 - Install Foundations 243,244		5	0	22-Oct-07 A	21-Dec-07 A		100%	[Gantt chart bars for 337 Rebuild Tap to Str #113199 - Install Foundations 243,244]																							
331 Rebuild Tap To Str #113199 - Install Wire (5.2 m)		19	0	24-Oct-07 A	17-Dec-07 A		100%	[Gantt chart bars for 331 Rebuild Tap To Str #113199 - Install Wire (5.2 m)]																							
310 Reconductor Canal (0.5 m)		5	0	28-Oct-07 A	04-Nov-07 A		100%	[Gantt chart bars for 310 Reconductor Canal (0.5 m)]																							
316 Rebuild 113188/13199 - Install Wire (0.9 m)		40	0	07-Nov-07 A	17-Dec-07 A		100%	[Gantt chart bars for 316 Rebuild 113188/13199 - Install Wire (0.9 m)]																							
311 Rebuild DC Section - Install Poles (11 ea)		9	0	17-Nov-07 A	17-Dec-07 A		100%	[Gantt chart bars for 311 Rebuild DC Section - Install Poles (11 ea)]																							
309 Removal of Structure/Framing Area 1-3		49	0	23-Nov-07 A	17-Dec-07 A		22%	[Gantt chart bars for 309 Removal of Structure/Framing Area 1-3]																							
321 Snow Removal/Frost Roads		88	80	03-Dec-07 A	04-Apr-08	0	5%	[Gantt chart bars for 321 Snow Removal/Frost Roads]																							
329 Rebuild DC Section - Install Wire (0.7 m)		5	0	13-Dec-07 A	17-Dec-07 A		100%	[Gantt chart bars for 329 Rebuild DC Section - Install Wire (0.7 m)]																							
308 2nd Outage Laurium 1 Tap - Osceola		72	66	17-Dec-07 A	01-Apr-08	3	1%	[Gantt chart bars for 308 2nd Outage Laurium 1 Tap - Osceola]																							
355 Haul Steel Poles		40	46	17-Dec-07 A	06-Mar-08	21	23%	[Gantt chart bars for 355 Haul Steel Poles]																							
357 Remove Wire/Structure		63	63	17-Dec-07 A	27-Mar-08	6	13%	[Gantt chart bars for 357 Remove Wire/Structure]																							
315 Rebuild Str #113200 to Osceola - Install Poles (54 ea)		31	21	19-Dec-07 A	29-Jan-08	48	5%	[Gantt chart bars for 315 Rebuild Str #113200 to Osceola - Install Poles (54 ea)]																							
359 Framing/Anchors/Grounding		63	63	19-Dec-07 A	27-Mar-08	6	5%	[Gantt chart bars for 359 Framing/Anchors/Grounding]																							
333 Rebuild Str #113200 to Osceola - Install Wire (4.7 m)		18	16	05-Mar-08*	24-Mar-08	9	0%	[Gantt chart bars for 333 Rebuild Str #113200 to Osceola - Install Wire (4.7 m)]																							
314 Demobilization		6	6	21-Mar-08*	28-Mar-08	5	0%	[Gantt chart bars for 314 Demobilization]																							
999 In-Service date		0	0	01-Apr-08*		0	0%	[Gantt chart bars for 999 In-Service date]																							

█ Remaining Level of Effort
 █ Primary Baseline
 █ Rem...
 █ Actual Level of Effort
 █ Actual Work
 █ Critic...

File #67225
 ATC Report Monthly Schedule Layout - TASK

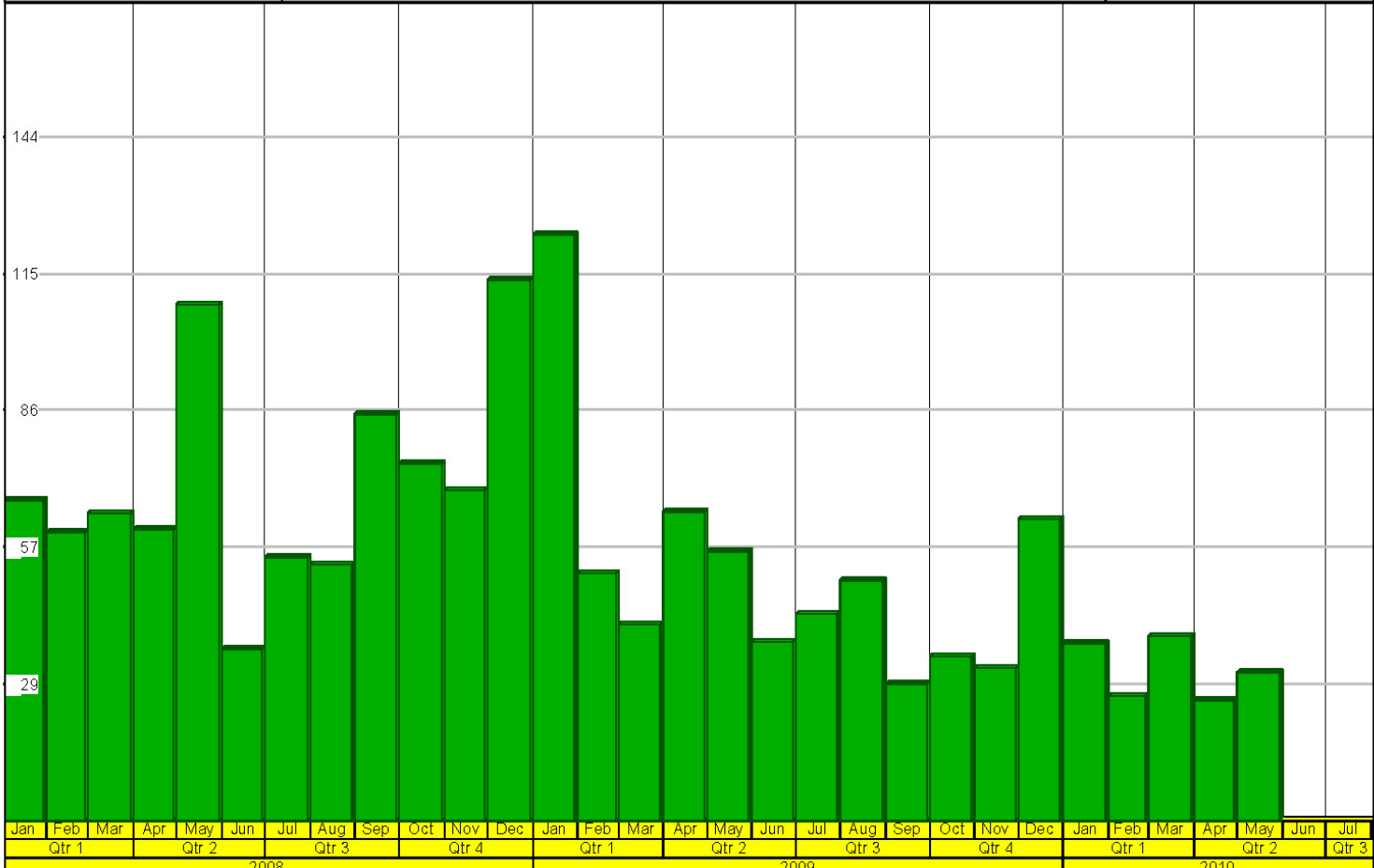
Page 1 of 1 - Printed:
 04-Jan-08 14:45

ATC Alliance - M.J. Electric, LLC			
Date	Revision	Ch...	Ap...
30-D...	Update		



ATC Alliance Master Work Schedule

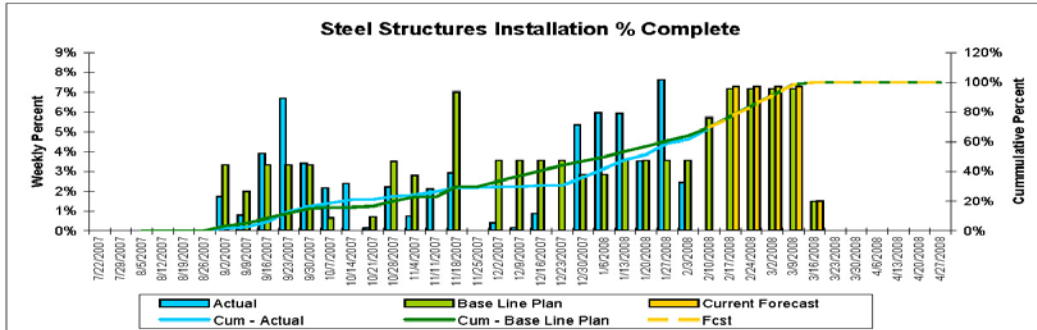
ATC Alliance Master Sched-Histogram Only (SCALE: Man-Months)



■ Budgeted Labor Units

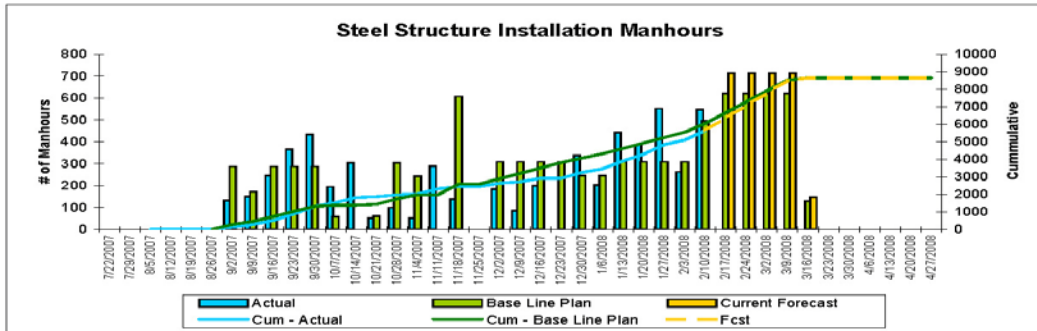
TASK filters: ATC Construction Not Complete (EF=>DD), ATC Phase 3 - Construction, ATC Proj
Start prior to Dec.31, 2010, ATC Work Type - T-Line.

Progress and Production Curves



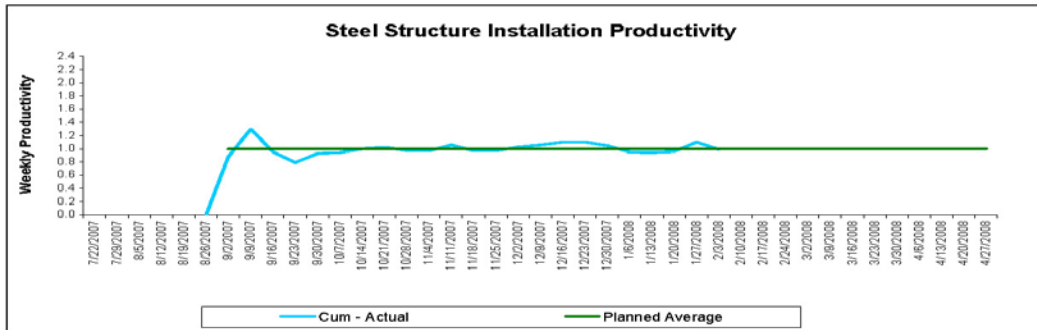
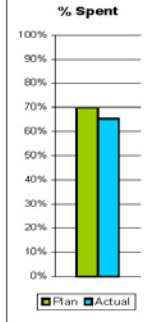
JTD Original Budgeted Percent Complete: 69.4%
 JTD Actual Percent Complete: 69.4%
 JTD Variance 0.0%

NOTE: % Complete = Mhrs Earned / Adjusted Plan



JTD Original Budgeted Manhours: 6040
 JTD Actual Manhours: 5649
 JTD Variance [UNDER] 392

Total Original Budgeted Manhours: 8648
 Total EAC Manhours: 8648
 Variance 0



JTD Original Planned Productivity Ratio Base Line: 1.00
 JTD Actual Productivity Ratio: 0.98
 JTD Variance [GOOD] 0.02

NOTE: Productivity <1 = less man-hours used per unit (good).
 If the productivity is >1 = more man-hours used per unit (bad)
 NOTE: Actual Productivity = Actual Manhours / Earned MH

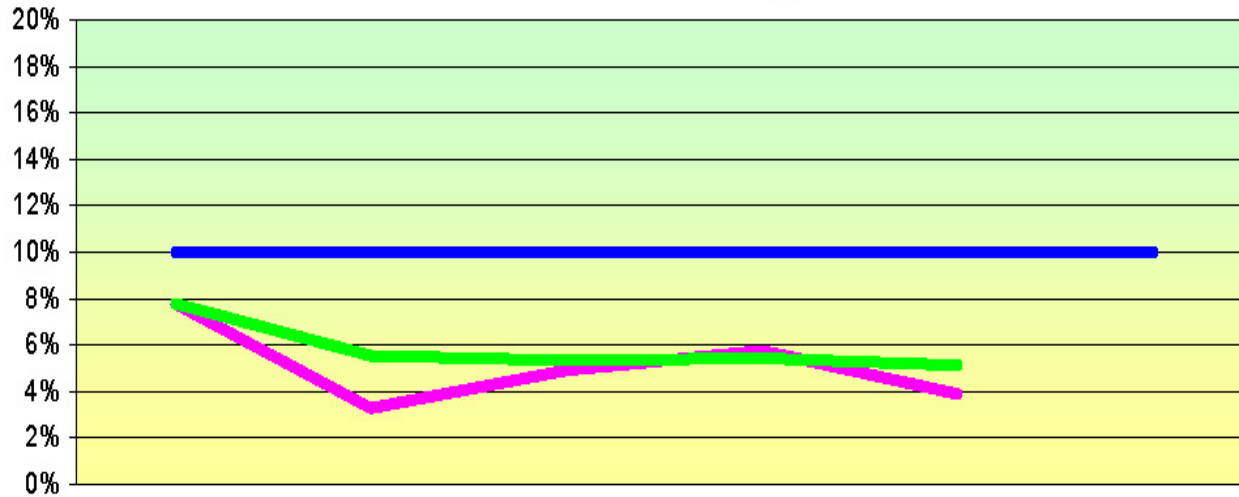
What feedback mechanisms were used to evaluate Alliance success?

- Feedback Mechanisms – Scorecard
 - Safety
 - Financial Forecast
 - Schedule
 - Customer Service

Alliance Scorecard

PERFORMANCE ITEM DESCRIPTION	INDICATOR	GOAL	ACTUAL (Year-to-Date)	ACTUAL (Month)
Safety (Gate): OSHA Recordable Rate - including sub-contractors	+	≤3.10	1.90	0.00
1. 90-Day Forecast: Total MJE Spend Forecast for the 90-day Period.	+	±10%	5.12%	3.88%
2. Projects Forecast: Six Major Projects (Venus to Metonga, Canal SS, Ontonagon SS, Aspen SS, Gwinn-Forsythe SS, Sunset to Ellinwood) individually within estimated cost, excluding risk.	+	±10%	9.6%	N/A
3. Projects Schedule: Six Major Projects In-Service Dates on Schedule.	+	6/6	6/6	N/A
4. Value Added: Value Added benefits identified by MJE and agreed by ATC.	+	≥\$250K	\$1,206K	\$84K
5. Customer Service: MJE Supplier Scorecard for 2007 Projects.	-	>3.75	3.60	4.50

MJ-ATC Forecast Accuracy per Month



	August-07	September-07	October-07	November-07	December-07	January-08
Goal	10%	10%	10%	10%	10%	10%
90 Day Actual*	7.78%	3.28%	4.91%	5.75%	3.88%	
YTD Average	7.78%	5.53%	5.32%	5.43%	5.12%	

*90 day actual includes reporting month and two prior months.

What were the lessons learned?

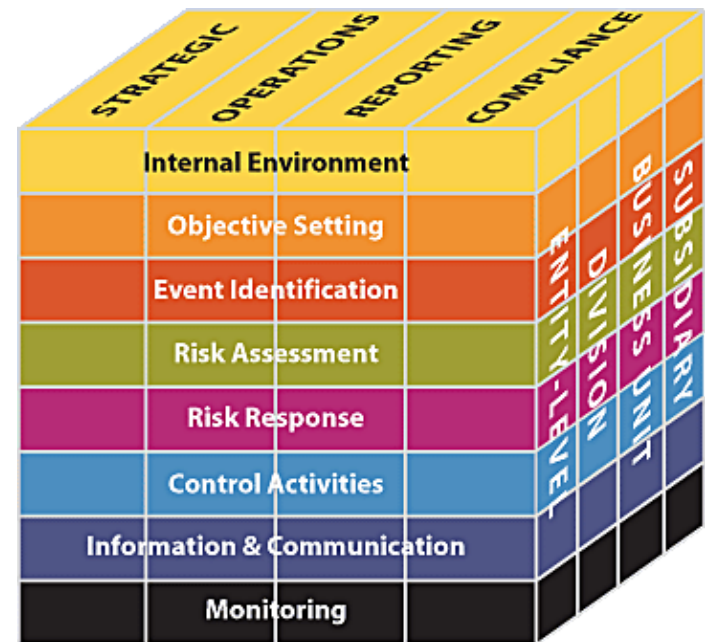
- Train Standard Practices (ERM approach)
- Initial Inconsistencies
 - Individual Project Risk Assessment
 - Forecasting and Cost estimating
 - Change Order estimating
- Small Group Affects Organizational Success

What was the value gained by using ERM?

- Long-term Customer Relationship
 - Costs reduced
 - Forecasting improved
 - Reporting streamlined
 - Staff trained in Continuous Improvement

How can ERM help your organization?

- The ERM model is a proven tool to increase efficiency and profitability by better managing the risks that every company is faced with on a constant basis.
- Better risk management = more efficient response = better results.
- The goal of business is to constantly improve profitability through both volume increase as well as margin percentage.
- ERM improves the likelihood that an organization can achieve both.



Enterprise Risk Management

