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Missing Schedules and Late Projects Resolving this Disaster in the Making

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- Director of Program & Project Controls, Vice President, ARCADIS
- Certifications:
 - DRMP: Decision & Risk Management Professional – AACE International
 - PSP: Planning & Scheduling Professional – AACE International
 - CEP: Certified Estimating Professional – AACE International
 - CCM: Certified Construction Manager – CMAA
 - PMP: Project Management Professional – PMI
- University of Virginia, Mechanical Engineering, 1972
- 45 years of experience in CM and CM Services specializing in Planning and Scheduling, Cost Management, Risk Management, Forensic Analysis, Dispute Resolution
- Fellowships and Awards
 - Selected as a 2015 Fellow by RICS (Royal Institution of Chartered Surveyors)
 - Selected as a 2014 Fellow of Project Controls by the Guild of Project Controls
 - Selected as a 2013 AACE Fellow by AACE International
 - Recipient of the 2021 AACE International “O. T. Zimmerman Founder’s Award”
 - Recipient of the 2011 AACE International “Technical Excellence Award”
 - Received award for “Significant Contributions to The Scheduling Industry” from PMI, 2009
 - Awarded first CMAA “Chairman’s Award” for contributions to CMAA and the CM profession, 2006
 - Top Ten Contributor to AACE Recommended Practices



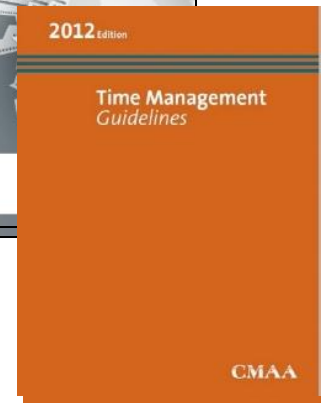
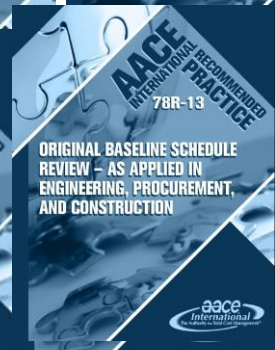
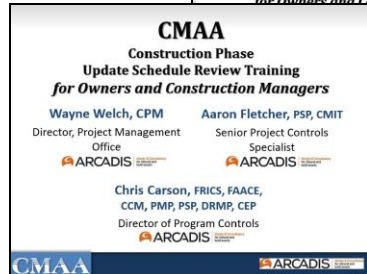
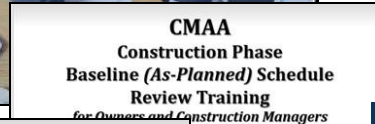
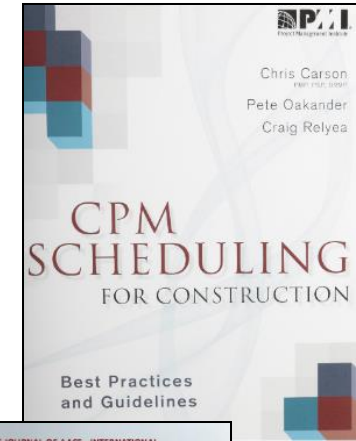
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• OVER 75 PUBLICATIONS:

- ✦ PMI book, “CPM Scheduling for Construction - Best Practices and Guidelines”
- ✦ CMAA Guidelines contributor – Time & Claims Management
- ✦ AACE RPs, Journal articles in Scheduling, Risk, Cost, Forensic Analysis – 18 total RPs with 2 Currently in Peer Review
- ✦ Three articles published in 2021 AACE Cost Engineering Journals

• OVER 750 SEMINARS/TRAINING/PRESENTATIONS



Introduction

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- Issue: Project starts predicting late completion
 - Often the reasons for the delays share potentially mixed responsibility between the owner and the contractor
- Result: Schedule updates are missed
- Complication: The atmosphere turns adversarial

- The loss of collaboration increases risks of failure

Introduction

Most important factors in early resolution of disputes

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2021 Rank		2020 Rank
1	Owner/contractor willingness to compromise	1
2	Accurate and timely schedules and reviews by project staff or third parties	2
3	Contractor transparency of cost data in support of claimed damages	3



(“Successfully Navigating through Turbulent Times”, Arcadis Global Construction Disputes Report, 2022)

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#2 – Accurate & Timely Schedules!

(“Successfully Navigating through Turbulent Times”, Arcadis Global Construction Disputes Report, 2022)



Introduction

- Missing updates seem not to be important
- Contractor believes lost time will be regained before next update
- Updates continue to be missed
- Collaboration deteriorates

- Missing updates can be a first symptom of the problem

- This session will recommend solutions

Risks of Missing Updates

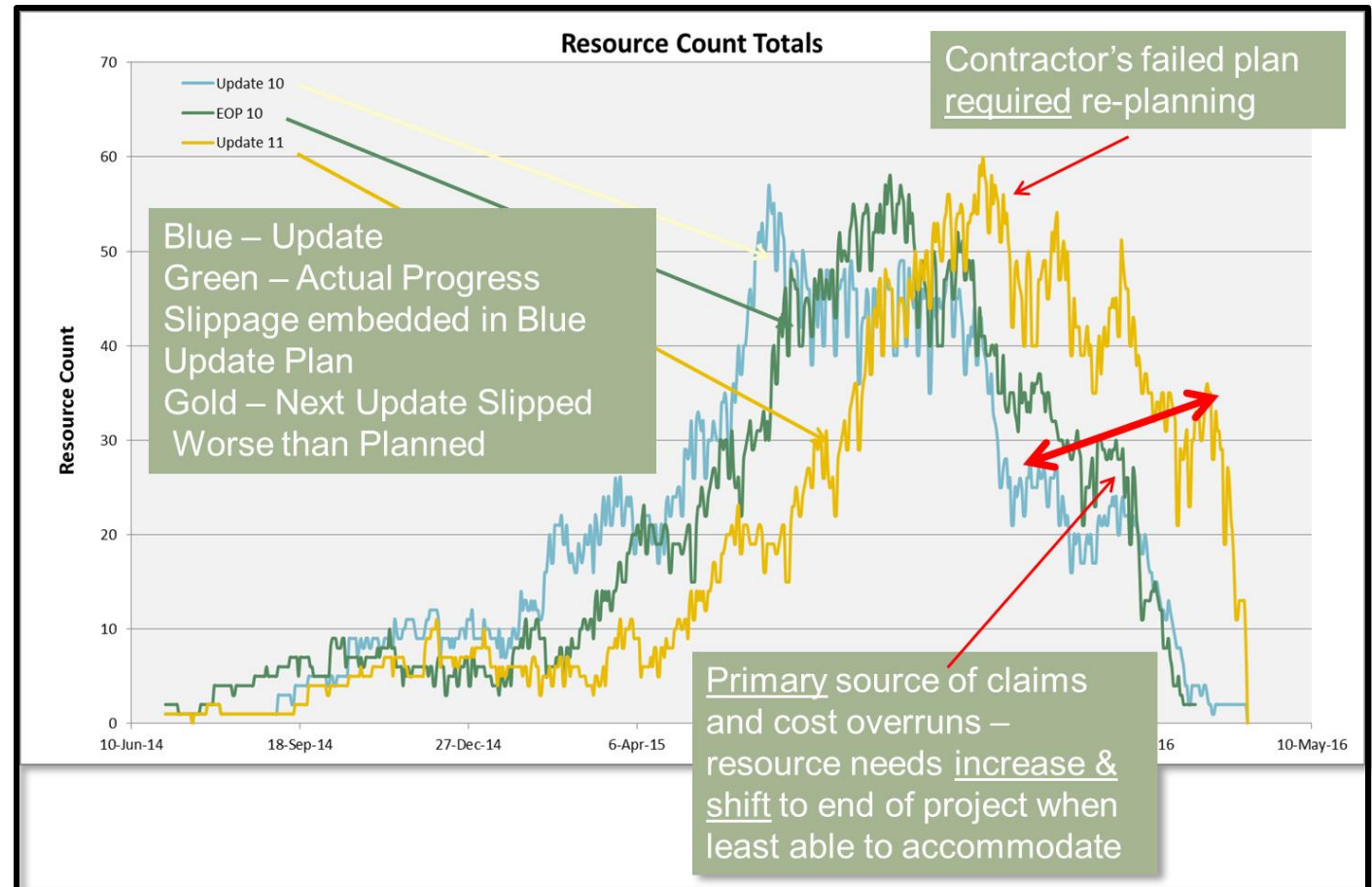
Risks of Missing Updates

- It is vital to ensure that regular updated schedules are prepared, submitted, reviewed, and comments are resolved
- Failure to submit regular updates is a common trait in claims
 - Also important during early periods while the full Baseline As-Planned schedule is developed – must collect as-built data
- Due to the changing nature of the Critical Path, analysis is complicated by missing updates
 - Performance can easily slip within one update, let alone multiple missing updates
 - Smaller windows between updates make it easier and more accurate to identify delay and performance issues

Risks of Missing Updates

- Resource planning and consumption can change dramatically in a month
- Without monitoring resources, performance can suffer
- One month slippage can push resource needs out four months
- Analysis gets difficult

1 Update, 4 Month Resource Slip



Risks of Missing Updates

- Very difficult to analyze delays across long update period
 - Delays can look very different when subdivided into smaller windows of time

“In addition to this, the Updated Schedule was last updated in December 04. As such, there is a large gap of time, approximately 30% of the total contract duration, in between the last update and this alleged delay. This means that the Updated Schedule as presented here has relatively little usefulness as a tool to judge any delay conditions. Without the most current progress entered into the schedule, it is impossible to analyze the effects of any issues that may or may not change the CCD. Finally, A has had no means of verifying the veracity of the claimed progress shown on the Updated Schedule, which shows a Percent Complete of 70% and notes that this REA cannot be judged objectively without reviewing the changes and causal activities in the Critical Path during the long period of no updates, while the Contractor is asserting that Owner caused delays during this period warrant compensation.”

Risks of Missing Updates

- Owner
 - Opportunities for claims positioning from manipulation
 - Reduced ability to analyze delay
 - Reduced ability to predict completion
 - Could commit Owner to high resource need for submittals and paperwork
 - Poor logic makes Total float values less meaningful
 - Increased chances that trades and spaces will overload near end of project
 - Risk of delay and disruption
 - Risk of reduced quality

Risks of Missing Updates

- Contractor
 - No approved basis from which to measure delays
 - Owner has not accepted Owner-responsible work integration into the schedule
 - inability to prove Owner caused delays or disruption
 - Planning is probably not sufficient
 - Limited monitoring likely
 - Total Float values not legitimate or useful
 - No early warning of problems
 - No ability to correct course before wasting money

Causes of Missing Updates

Causes of Missing Updates

- Missing updates not usually intentional
- Expertise in software may be lacking
- Expertise in CPM scheduling methodology may be lacking
- Weak schedule updating process/procedure
- Subcontractors out of control
- Changed conditions affecting schedule – contractor uneasy about showing progress
- Paperwork driving schedule – procurement, shop drawings

Causes of Missing Updates

- Staff problems
- Weak performance looks bad
- Poor continuing modeling of scope and plan
- Missing data and narrative
- Out of sequence work (affecting Critical Path)
- Inappropriate Critical Paths
- Inadequate resource planning
- Worried about status/don't want to record status

Analysis Required for Resolution

Analysis Required for Resolution

- Project requires a much higher level of documentation of as-built data
 - Daily recordkeeping is necessary
- With good daily reports, three choices
- Prefer de-progressing an updated schedule
- If there is no update to work from, it is possible to advance the last schedule, or the baseline
- If there are no schedules at all, develop an as-built

Analysis Required for Resolution

- Project requires a much higher level of documentation of as-built data – short interim schedules are good source of plan at the recreated data date

Central Civil Construction Two Week Lookahead Schedule									
Project: MIA Central Base Apron and Utilities Modification and Expansion									
Project #: V037A									
Contractor	Activity ID	Work Activity Description	Mon	Tues	Wed	Thur	Fri	Sat	Sunda
			3-Oct	4-Oct	5-Oct	6-Oct	7-Oct	8-Oct	9-Oct
Element: General Scope Items									
Central Civil	N/A	Temporary Stockpiling of Suspected and ENR Soil							
Element: Drainage Structure Deliveries									
United Concrete Products	N/A	Manhole MH-13							
All American Precast	N/A	Fire Hydrant Boxes FH-2 to FH-5							
Element: 10'x12' Box Culvert - Phase 2c									
Homestead Concrete & Drainage	V037A-19300	Place Joint Support Collar at 10'x12' Box Culvert							
ASAP Installations	V037A-18810	Remove Temporary Sheeting from 18+40 to 20+60							
Central Civil	V037A-18130	24" RCP from Box Culvert to IN-4							
Element: Bulletin #52 OWS-1 Panel Relocation Work									
Hypower	V037A-R3500	Additional Ductbank and Wiring Work							
Hypower	V037A-14220	Phase 2b-1 Electrical Wiring & Controls (OWS Panel Installation)							
Central Civil	V037A-R3510	Backfilling & Install Stabilized Subgrade & Lime Rock							
Homestead Concrete & Drainage	V037A-R3520	Lean Concrete Base Course from 101AD to 105 AD							
Homestead Concrete & Drainage	V037A-R3530	PCCP Pavement for Lanee 101AD,102AD, and 105AD to 108AD							
Element: Phase 2c Early Work (East Side)									
Central Civil	V037A-16750 & V037A-30	Cut Site to Subgrade (NE) - PH 2C							
Central Civil	V037A-22770	Cut Site to Subgrade (SE) - PH 2C							
Central Civil	V037A-22740	Remove Utilities (SE) - PH 2C (Fuel Line Removal)							
Central Civil	V037A-R3770	Fuel Line Removal							

Analysis Required for Resolution

- First choice – create missing schedules by de-progressing update – works because of use of as-built schedule
 - Identify timespan with no schedule updates
 - Identify last updated schedule before timespan
 - Identify first updated schedule after timespan
- Make copy of first updated schedule after timespan
- Use P6 Global Changes to capture the update information at each data date in the missing timespan
- Actual start and finish dates with the range of the previous data date will be extracted and used to calculate the missing update

Analysis Required for Resolution

- First choice – create missing schedules by de-progressing update



Deprogression Procedure – AACE MIP 3.5 - Recreation

Purpose: The purpose of this procedure is to take the most recent updated end of a period of missing updates, and create previous periodic updates for schedule, or to develop interim update schedules which were not produced by Contractor.

First, the most recent update must contain logic and dates that accurately model the schedule for all progress. This should be verified by the Project Manager and Superintendent. During the Deprogression process, it is important to use a reliable source data, such as field reports and meeting minutes, or short-interval schedules that might be in Excel or a calendar, to validate the as-built.

The preference is to make no changes to this schedule, but if there are glaring errors or the schedule does not model the field plan, is missing scope, or has other cause it to be less than a legitimate representation of the progress, it would be necessary to rectify the schedule. Make as few corrections as possible in the rectification and document all. Include in the report the rectifications, purposes, and work

Next create an Export file with the following data: Activity ID, Activity Description, Early Start, Early Finish, OD, RD, PC.

Then record the original Data Date and the New Data date for the schedule you wish to create.

1. Go back into P6 and create a copy of the as-built schedule. This will be created into a new update of the project, so name the project realizing that more schedules will be created for periodic use.
2. Input new data date (“DD”) in the copied schedule and reschedule the project.
3. Create a Global Change (“GC”) to de-progress work to the DD. In this case two GCs will be made to correct progress that has started but not finished.

Non-Started Activity Global Change

The screenshot shows two instances of the 'Global Change' dialog box for activity 'Deprogress AS'. The left window shows the 'Change' tab with 'Selection' criteria set to 'Any' and a table for specifications. The right window shows the 'Selection' tab with 'Level' set to '1' and 'must meet' criteria set to 'Any'.

	Data Item	Criteria	Data Item/Value	Operation	Data Item/Value
If:					
or					
or					
or					

Analysis Required for Resolution

- This is recreating the progress-only update to the missing data date
 - *Follow available and acceptable RP-FSA procedure (MIP 3.4 Subsection K.4 “Bifurcation: Creating a Progress-Only Half-Step Update”.*
 - Progress data up to this date should be updated.
 - *This schedule is not official but it can represent the as-built condition at a mid-point.*
 - Shows the probable progress-against-plan perspective that the opposing party intentionally or un-intentionally skipped.
 - Ensure that the earliest schedule is a reasonable transition of the critical path from the last official schedule to the recreated update.
- Product can be reliable if done properly

Analysis Required for Resolution

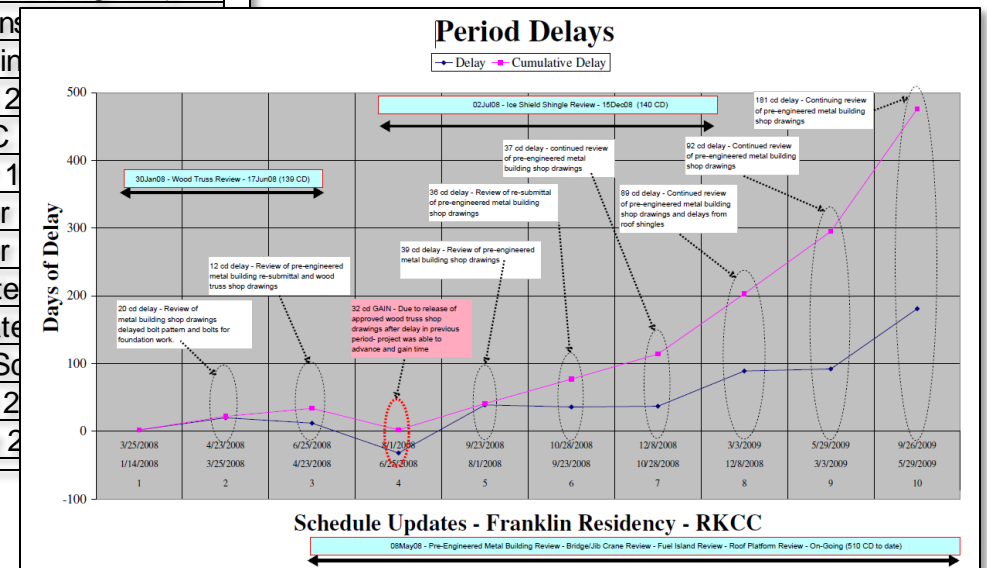
- It is important that when the recreated schedules are completed, the critical path is traced and verified:
 - From the last schedule before the first de-progressed schedule, and
 - From the last de-progressed schedule to the first official schedule
- This needs to be documented

Analysis Required for Resolution

- Schedule log helps with process



Project Name: Sample Project					
Project Start: 15-May-19					
Official File?	File Name	Data Date	Project Completion Date	Milestone Completion	Note
	16-Jul-08	16-Jul-08	10-Aug-10	1-Feb-11	Revised baseline (Zero Progress)
	9-Mar-09	15-Apr-09	26-Jul-10	1-Feb-11	Baseline Revisions
AP	15-Apr-09	15-Apr-09	26-Jul-10	1-Feb-11	Baseline Fin
	6-Jul-09	15-Apr-09	26-Jul-10	16-Jul-10	baseline DC 2
	6-Jul-09	15-Apr-09	26-Jul-10	25-Feb-11	revised baseline DC
UD 1	19-Oct-09	19-Oct-09	29-Sep-10	1-Feb-11	Update October 1
	4-Dec-09	4-Dec-09	25-Oct-10	9-Feb-11	Update December
UD 2	4-Dec-09	4-Dec-09	9-Dec-10	30-Mar-11	Update December
UD 3	21-Jan-10	21-Jan-10	15-Dec-10	1-Apr-11	January Update
UD 4	3-Mar-10	3-Mar-10	27-Dec-10	28-Mar-11	February Update
	DESIGN	1-May-10	27-Dec-10	28-Mar-11	Design Issues Sc
UD 5	19-May-10	19-May-10	27-Dec-10	3-Feb-11	May update 2
UD 6	2-Jul-10	2-Jul-10	6-Dec-10	3-Feb-11	June Update 2



Analysis Required for Resolution

- Second choice – create missing schedules by adding status to last updated schedule
 - Requires research from daily reports and other documentation
 - Ensure alignment with all documents once schedule update is created
 - No easy quality control except to compare to documents, unless an as-built schedule is available
- Reliability will depend entirely on quality of documents
- Be careful to ensure that there is a reasonable and explainable transition from the final recreated update schedule and the first official updated schedule

Analysis Required for Resolution

- Third choice - use as-built documentation to develop DSAB schedule
 - When schedule discrepancies are severe, develop Daily Specific As-Built (DSAB) Schedule to document actual conditions
 - Document actual resources, ideally crews/equipment
 - Perform resource analysis to validate what drove schedule performance
 - Maintain cumulative delay chart from revised schedules, annotate delay chart with impacts/low productivity – Schedule Log RP available
 - Capture Time Performance Ratio or Missed S/F

DSAB Prepared in a Forensic Mode

- Daily Specific As-Built in As-Planned vs. As-Built Schedule Analysis
 - Cost Engineering Vol. 50/No. 3 March 2008 By Svetlana Lyasko

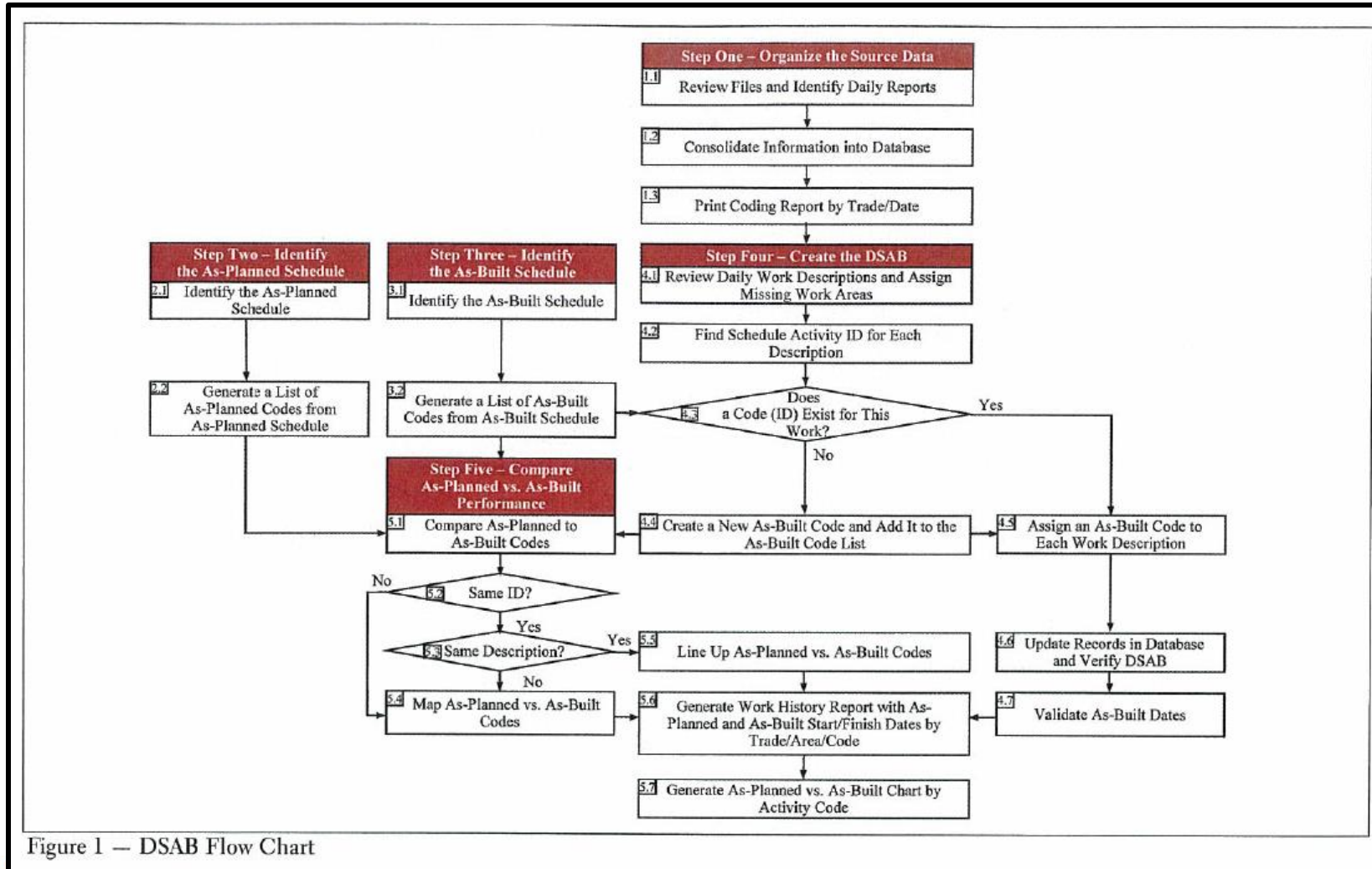


Figure 1 -- DSAB Flow Chart

AB Forensic Schedule Development

- Retrospective As-Built Schedule Development
 - 2005 AACE International Transactions CDR.12 by Dr. Anamaria Popescu and Andrew Avalon

Table 1—Reliability Code Definitions.

Reliability Codes	Description
1	Highly Reliable [primary source documents such as Acceptance Certificates or Material Receiving Reports]
2	Reliable [secondary source documents including tabular listings of schedule dates for system acceptances or walk downs]
3	Estimated by Long International based upon the actual dates of predecessor activities
4	Estimated by Long International based upon the actual dates of successor activities
5	Estimated by Long International based upon interpolations from meeting minutes, progress reports or other contemporaneous documents.
6	Mechanical subcontractor's schedule date [confirmed to be consistent with predecessor and successor dates]
7	Unconfirmed [Used mechanical subcontractor's unconfirmed schedule date as the default.]

DSAB Performed during Project

- Daily Specific As-Built schedule development
 - Significantly easier than in forensic application

1. Record Daily Report's entry into separate rows into the Excel spreadsheet under the 'Activity Description' column.
 - a. Note: Each Project is labeled under a separate tab, and therefore each Daily Report will need to be filled in accordingly.
 - b. Note: If an entry contains two different areas, then a separate row will need to be added with the same description unless different
2. An 'Activity ID' number will be required for each line item. Currently it is hidden in column A. The ID number will need to be unique for each activity but not relevant to the activity, it is just a random number. This number is not important as it can be filled in at any time.
3. Record the date of the Daily Report under the 'Date' column in the spreadsheet.
4. Next, the Activity Codes will need to be assigned to each entry. Each Activity Code column is assigned with a drop down box with specific codes. For file size constraints, the drop down boxes are at the top entry, **not the column header**, and will be copied down as needed by the user. These drop down boxes work well with just "copy" and "paste". The specific activity codes come straight from POJV's MGC_RB1_UP03 mitigation schedule for 4/26/08. A list of all Activity Codes:
 - a. Annex – Annex for entry, needs to match tab; e.g. Annex #3, Annex #4
 - b. Area – Area specific for each entry
 - c. Bid Package – Bid Package corresponding to each entry; e.g. B - C INFILL
 - d. Construction Phase – Phase of construction the entry was completed
 - e. CSI Code – General CSI Code; e.g. 3 Concrete
 - f. CSI – Specific CSI Code
 - g. Floor – Floor the work was performed
 - h. General Area – Is assigned for either North, South or POJV Construction
 - i. Major Project – e.g. B - C INFILL
 - j. OPS ID – Pertains to specific work phases

DSAB Procedure – Capture Data

- DSAB development – capture daily data into spreadsheet
 - Each line item is a 1-day resource

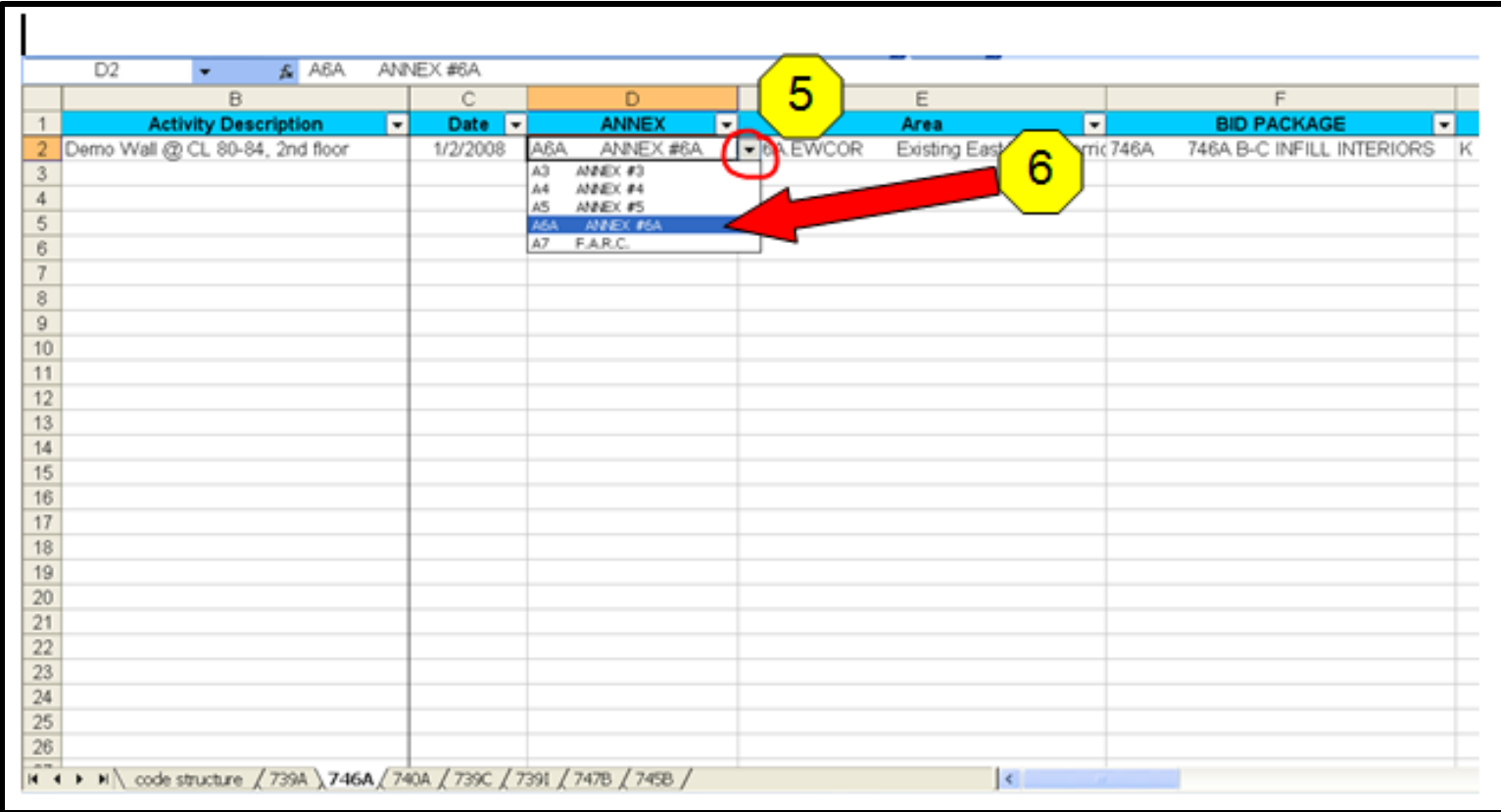
The image shows two screenshots of a spreadsheet. The top screenshot shows a list of activities with columns for Activity, Activity Description, Date, and ANNEX. A yellow callout '2' points to the Activity column, '1' points to the Activity Description column, and '3' points to the Date column. A yellow callout '4' in the bottom screenshot points to a row of columns including Area, BID PACKAGE, Construction Phase, CSI Code, CSI, and FLOOR.

Activity	Activity Description	Date	ANNEX
00001	Demo Wall @ CL 80-84, 2nd floor	1/2/2008	
00002	Install Acoust. Atrium Furring and Drywall @ CL 62-64/JJ.2-KK.8, 2nd floor	1/2/2008	
00003	Install Acoust. Atrium Insul. @ CL 66-68/JJ.2-KK, 2nd floor	1/2/2008	
00004	Install Acoust. Shaft Col. @ CL 86-84/FG, 2nd floor	1/2/2008	
00005	Run Conduit Elec. Devices @ Area 2 &3, ramp M	1/2/2008	
00006	Feeder Conduit, panel NP6-3	1/2/2008	
00007	Rough-in area 35 & Finish rack for Transformer Rm. 250P6	1/2/2008	
00008	Hang Conduit, Rm. 249 panel	1/2/2008	
00009	Install OH water pipe @ ETD bldg, 2nd floor	1/2/2008	
00010	Completed Vent Piping @ ETD bldg, 2nd floor	1/2/2008	
00011	Changed RWL Hanger for large Model for Insul. Clearance	1/2/2008	
00012	Cont. SOG & Compacting @ ETD bldg @ CL 72-77/MM.1-RR	1/2/2008	
00013	Formed and Placed Rebar for Tie Beam @ the ETD Maintenance Rm	1/2/2008	
00014	Decking on ETD bldg roof	1/2/2008	

Activity	Activity Description	Date	ANNEX	Area	BID PACKAGE	Construction Phase	CSI Code	CSI	FLOOR
00001	Demo Wall @ CL 80-84, 2nd floor	1/2/2008	AGA	ANNEX#6A					
00002	Install Acoust. Atrium Furring and Drywall @ CL 62-64/JJ.2-KK.8, 2nd floor	1/2/2008	AGA	ANNEX#6A					
00003	Install Acoust. Atrium Insul. @ CL 66-68/JJ.2-KK, 2nd floor	1/2/2008	AGA	ANNEX#6A					

DSAB Procedure – Assign Activity Codes

- DSAB – identify field data for each line item, align with schedule
- These “activity codes” allow for filtering, sorting



1	Activity Description	Date	ANNEX	Area	BID PACKAGE
2	Demo Wall @ CL 80-84, 2nd floor	1/2/2008	A6A ANNEX #6A	EWCOR Existing East	746A 746A B-C INFILL INTERIORS
3			A3 ANNEX #3		
4			A4 ANNEX #4		
5			A5 ANNEX #5		
6			A6A ANNEX #6A		
7			A7 F.A.R.C.		

DSAB Procedure – Develop/Clean Data

- DSAB – develop all data for codes, then import into schedule

	A	B	C
1	Activity Code	Activity code Value	Activity code Description
242	Area	747B.FUG	747B - Foundations & U/G Utilities Area G - CL 111-136
243	Area	747B.SEA	747B - Shell & Enclosure Area A - CL 87-91
244	Area	747B.SEA0	747B - Shell & Enclosure Area A.0 - CL 82-87
245	Area	747B.SEB	747B - Shell & Enclosure Area B - CL 91-98
246	Area	747B.SEC	747B - Shell & Enclosure Area C - CL 98-104
247	Area	747B.SED	747B - Shell & Enclosure Area D - CL 104-110C
248	Area	747B.SEE	747B - Shell & Enclosure Area E - CL 110C-110L
249	Area	747B.SEF	747B - Shell & Enclosure Area F - CL 110L-111
250	Area	747G.10	747G Milestones
251	Area	747G.15	747G Mobilization
252	Area	747G.20	747G Aircraft Maintenance Control Office
253	Area	775C.GEN	GENERAL
254	Area	MGC	MGC AREA CODES
255	Area	NICA	NOT IN CONSTRUCTION AREA
256	BID PACKAGE	702A	702A AUTOMATED PEOPLE MOVER
257	BID PACKAGE	703A	703A BAGGAGE HANDLING SYSTEM
258	BID PACKAGE	703A5	703A5 BHS EARLY BAG STORAGE SYSTEM
259	BID PACKAGE	703A6	703A6 BHS REGIONAL COMMUTER FACILITY
260	BID PACKAGE	726B	726B AIRCRAFT FUELING SYSTEM
261	BID PACKAGE	726C	726C TWIN 20" FUEL LOOP
262	BID PACKAGE	732A	732A APRON REGIONAL COMMUTER FACILITY
263	BID PACKAGE	732D	732D B-C APRON
264	BID PACKAGE	732K	732K APRON GATE D-50
265	BID PACKAGE	732L	732L APRON C-D
266	BID PACKAGE	732M	732M APRON A-B (DESCOPEd WORK)
267	BID PACKAGE	737E/G	737G and 737E - C-D Infill Shell Frame
268	BID PACKAGE	737F	737F C-D GATE CONTROL TOWER
269	BID PACKAGE	737G	737G - APM Slab Replacement
270	BID PACKAGE	737H	737H C-D INFILL PDS & CCTV SYSTEM

Note

code structure 739A / 746A / 740A / 739C / 739I / 747B / 745B /

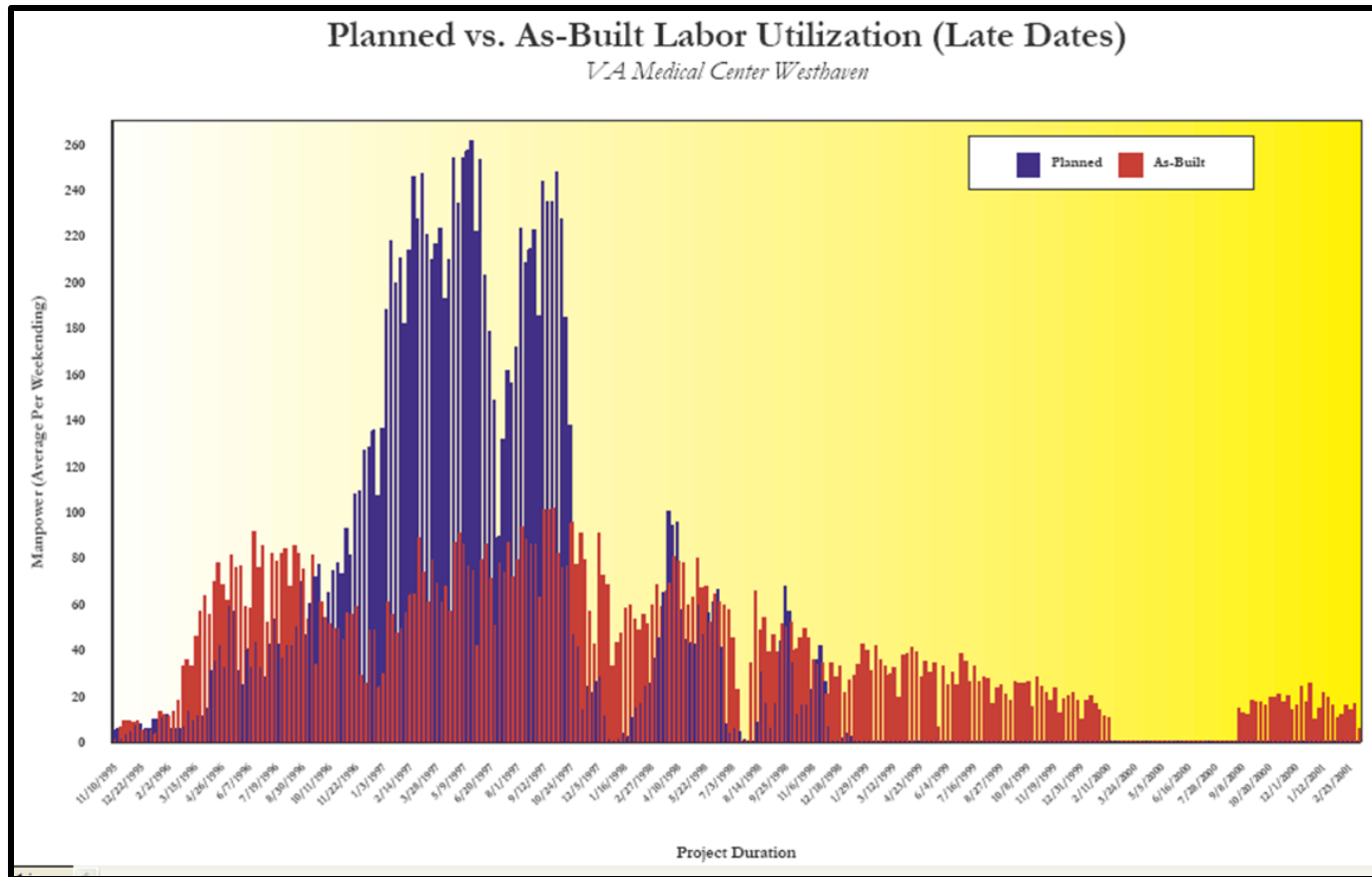
Actual Resource Collection – by Crews

- Resource collection by crews
 - Show planned crew loads (from contractor's schedules)
 - Collect count of actual crews

AMP Terminals Yard Project Resource Comparison - Planned vs. Actual													
Planned Resources								Actual Resources					Difference
Date	Crew 1 Cut/Fill	Crew 2 Grade	Stone	Pave	Surface Pave	Striping	Total Crews Scheduled	English Crews Onsite	Higgerson Buchanan Crews Onsite	Basic Crews Onsite	Spivey Crews Onsite	Total Crews Onsite	Manpower Over (+) / Under (-)
1-Mar	3	5	3	3			14					0	
2-Mar	2	2	3	2			9	2	4			6	-3
3-Mar	3	3	3	3			12		2	3		5	-7
4-Mar	3	2	3	1			9	8	1			9	0
5-Mar	3	2	3	2			10					0	
6-Mar	3	2	2	3			10					0	
7-Mar	3	2	2	3			10					0	
7 22-Jun					1	2	3					0	
8 23-Jun					2	2	4					0	
9 24-Jun					2	2	4					0	
0 25-Jun					2	3	5					0	
1 26-Jun					2	2	4					0	
2 27-Jun					1	2	3					0	
3 28-Jun						2	2					0	
4 29-Jun						2	2					0	
A Negative Number Indicates Insufficient Resources								Over (+) or Under (-) Staffed					-10

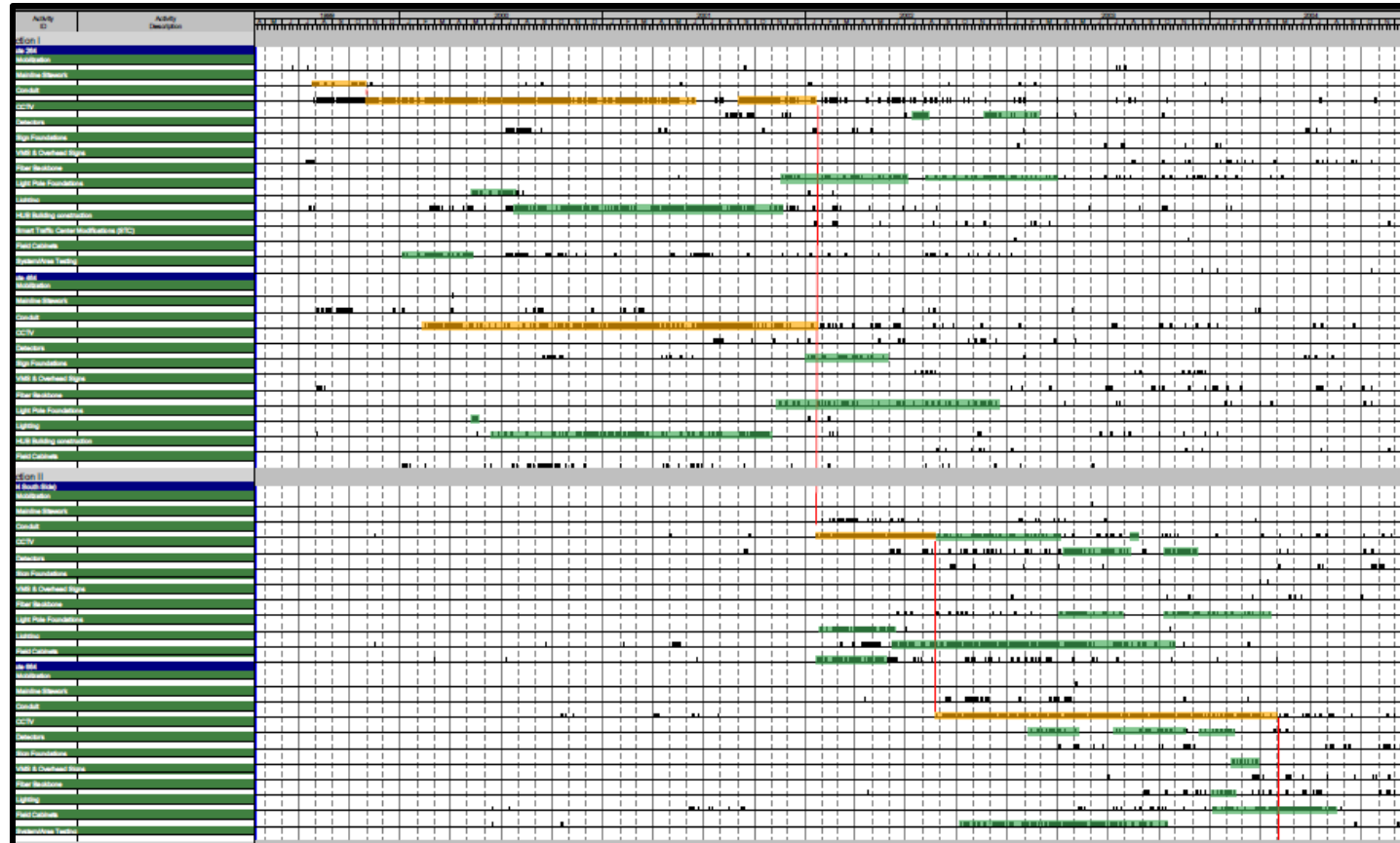
Resource Analysis – Compare Plan/Actual

- Resource analysis



Identify ABLP for Negotiations

- Presentation of ABLP analysis – alone or as AP vs. AB
 - Use resource analysis to help establish ABLP
 - Use ABLP to confirm validity of corrected schedules



Best Practice Recommendations

Best Practice Recommendations

- Always perform monthly (at least) updates
 - Validate actual dates
 - Confirm reasonableness of remaining durations
 - Separate progress from revisions/planned mitigations
-
- Do not allow contractor to avoid updating every month
 - If they do, consider performing an update for data record purposes

Best Practice Recommendations

- First choice, de-progress, whenever possible because it uses the as-built data and works backwards to the last data date
- Verify actual dates
- Reliability depends on quality of source documents (field reports, meetings, emails, logs, emails, short interim & specialty schedules)
- Forward schedule creation is less reliable than de-progressing

Conclusion

Conclusion

- When there are missing schedule updates, it is very difficult to accurately analyze for delays
- It is in everyone's best interests to provide monthly updates
- Validating updates and providing monthly analysis will help resolve many issues
- Done properly, this helps maintain the collaborative culture on the project
- But if updates are missing, it is possible to recreate those updates
- This narrows the analysis window and gives a better understanding of the contemporaneous critical path

Conclusion

- These steps will enable analysis of delays even without contemporaneous schedules
- Review the data chosen to de-progress and verify with the Contractor
 - Encourage them to cooperate and maintain schedules
 - Convince them that documentation rebuts loose/inaccurate claims
 - Convince them that the Owner's analysis process is accurate and convincing
- Ideally this process will influence the Contractor to update every month

General Project Actions

- Goal is to keep open schedule communications – meetings important
- Be realistic
 - Recognize that few contractor schedules are great
 - Recognize that few project managers really understand scheduling
 - I believe that there is much more bad practice than manipulation
- Don't mandate that the schedule cannot predict late completion
 - Pick some negative Total Float limit – require recovery schedule
 - Recognize the level of accuracy of the schedule
- Recognize that the Owner has important responsibilities with respect to schedule
 - Constructability reviews to improve quality of documents
 - Allow/promote planning time
 - Provide technical analysis and feedback
 - Minimize & acknowledge owner or third-party delays
 - Aggressively pursue extension of time reviews and awards



THANK YOU

Missing Schedules and Late Projects
Resolving this Disaster in the Making

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