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Illinois Chapter

“Can’t We All Just Get Along?”
Keeping Your Eye on the Prize Despite
Getting Poked in It.

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Program Overview

"Can't We All Just Get Along?"

Keeping Your Eye on the Prize Despite Getting Poked in It.

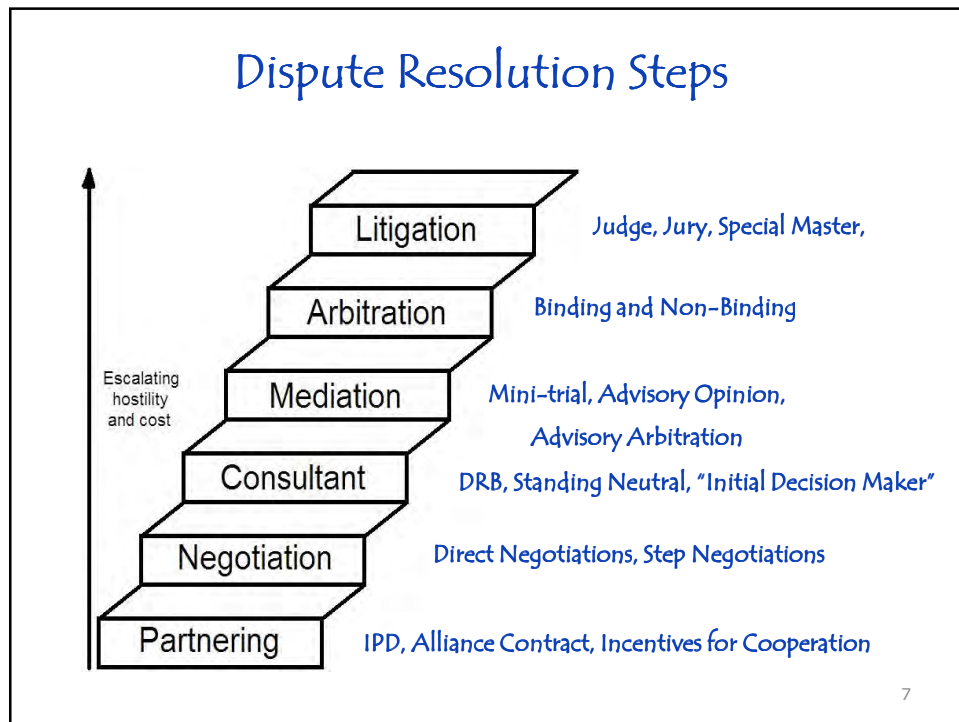
Alternative Dispute Resolution (ADR) has a long history of use in labor, workplace and construction disputes. In fact, the construction industry is often seen as the lead innovator in the use of ADR techniques to address and resolve disputes in on-going projects while keeping the project moving forward. ADR is a broad subject. ADR is applied in all types of business and personal negotiations - from employment disputes to business mediations to neighborhood groups to international refugee crises. These situations may arise out of an impromptu confluence of circumstance or have a formal pathway for resolution defined by the contract. The program will touch upon the core principles and practices of Alternative Dispute Resolution (ADR) with a special emphasis on contractual situations, such as construction, contract manufacturing and service outsourcing.



Program Overview

- What is ADR?
- Why ADR as a remedy for dispute?
- ADR Tools and Terms
- The sources of disputes
- Fun! Fun! Fun!





"Terms of Art" Tools of the Trade

- Negotiation ... *Obvious!*
Yes!
...and no.
- 'good-faith'
- 90% to 95% of cases settle before trial

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"Terms of Art" Tools of the Trade

- Mediation

- Negotiation "plus"

The mediator...

- Persuades...advises...cautions
- The mediation is "without prejudice"
 - nothing from mediation can be "used against you"
 - outcome is confidential.

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"Terms of Art" Tools of the Trade

Arbitration

- Mediation with a stick
- person or panel;
- relaxed 'rules of evidence';
- less 'discovery'

Arbitrators selected by participants

- may be "binding" or "non-binding"
 - depending upon the terms of the contract.

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Why ADR?

- Execution of business strategy requires 'focus'.
- Disputes shift the focus...
- from the project to participants;
- from project 'objectives' to participant 'objectives'.

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So how does this happen?

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Has this ever happened to your project?

- Scope Change
- Schedule Delay
- Schedule Acceleration
- "Interference"
- Workmanship Issues
- Performance Issues/Expectations

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The role of contracts

Risk Allocation

"Risk allocation is the process of identifying project risks and determining how they may be equitably and realistically shared by all parties on a construction project."

"Enlightened Risk Allocation: The 21st Century Owner's Guide to Cost Effectiveness" (Produced by the American Consulting Engineers Council and the Associated General Contractors of America), Page 2.

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Implications on Project Execution

- Responsibility – *Shed | Shift*
 - Liability – *Limit or Indemnify*
 - Warranty\Guarantee – *Promise Nothing!!!*
- D D O
- *Diffuse*
 - *Deflect*
 - *Obfuscate*

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Implications on Project Execution

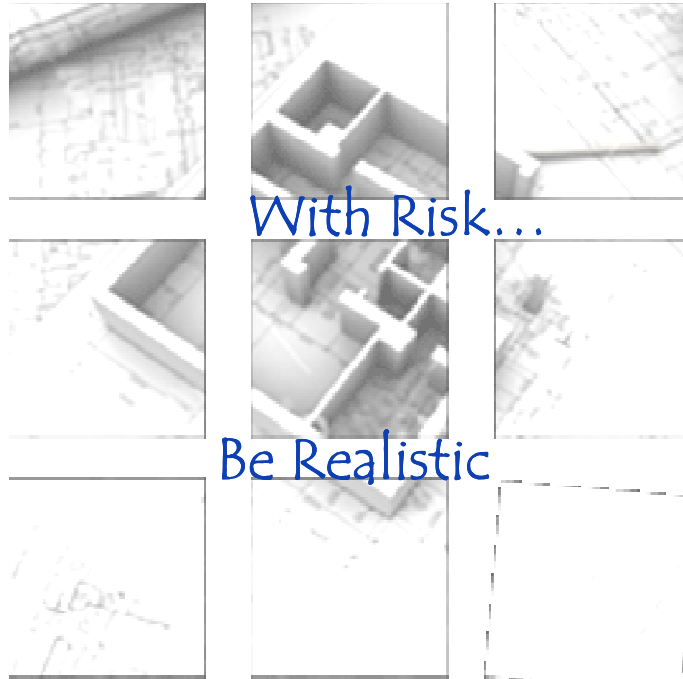
- Predictability over Innovation
 - Focus on 'CYA' over 'BAT'
 - ... or even 'MAT'
 - Risk Management over Project Management
- *"BAT" – Best Available Technology*
 - *"MAT" – Most Appropriate Technology*

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Implications on Technical Execution

- On Design – the “Standard of Care”
 - What would the other guy do?
 - ‘reasonable and prudent care’
- On Construction – “custom & practice”
 - Expectations on workmanship & execution
 - ‘best practices of the trade’
 - ‘a workman-like manner’

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On contracts...

- This interpretation is influenced by two primary ideas:

‘the custom and practice’

– Based on “reasonable expectations” of “services rendered” in a certain “style and fashion”.

- Construction – ‘in a workmanlike manner’
- Design – ‘the standard of care’

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Solution?
Cover it in the Contract!!!

Right??

*The more control,
the more that requires control.
This is the road to chaos.*

PanSpechi aphorism

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But 'stuff' happens...

Traditional Sources of Dispute

Design	<ul style="list-style-type: none"> • Poor Design • Late Design • Incomplete Design
Equipment	<ul style="list-style-type: none"> • Late Equipment • Bad Equipment
Construction	<ul style="list-style-type: none"> • Late Construction • Poor Construction • No Construction (Default)

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...and sometimes you don't even know what to call it.

Non-Traditional Sources of Dispute

Non-Traditional because of...

Execution Strategies

- Fast Track
- Hyper Fast Track
- Performance and 'Best Value' Contracts
- Design Build
- D-BOT/D-BOM

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...and sometimes you don't even know what to call it.

Non-Traditional Sources of Dispute

Non-Traditional because of...

- 'Fuzzy' Scope
- Process or Design 'Refinement'
- 'Shell & Core' Tech Space
- Licensing and Tech Transfer
- Mergers, JVs, 'Nested' Users, ???
- Technology Issues
 - 'Overwrite', 'Obsolescence', 'Legacies' and 'Backward Compatibility'

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...and sometimes you don't even know what to call it.

Non-Traditional Sources of Dispute

'Performance Contracting'

- Design-Build
- D-B Operate Transfer
- D-B Operate Maintain
- The 'quality' of performance is not assessable until the end of construction or even longer...
 - Green buildings?

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...and sometimes you don't even know what to call it.

Non-Traditional Sources of Dispute

Performance Contracting

- how do you know when you're 'done'?

Expectation and Promises of Performance

- does this equate to an 'implied' warranty?

Disputes over...

- ...the definition of 'acceptable'
- ...the definition of 'working'
- ...the definition of 'suitable'
- ...the definition of 'substantial'
- ...the definition of 'beneficial'

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So, its time to play...

You bet your profit margin!!!

Come on down!!!

Do you feel lucky?

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Here are the players...

- Owner – Gargantua Pharmaceuticals
 - Bridging A/E – H. A. Murabi & Associates
- Design Build Contractor – DCH Construction
- Design Consultant – Edwin P. Hermeral Associates P.C.
- Bid-Build Designer – E. P. Hermeral Associates
- Process Equipment Manufacturer – Py Enasakai, Ltd.
 - Equipment Controls Supplier – Entropy Technologies

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Here's the story...

Gargantua Pharma wants to...

- renovate and expand an existing facility...
 - ...built in 1978
 - ...Oral Solid Dosage manufacturing

Expansion to include:

- ...R&D upgrade;
- ...Product development suites;
- ...new Oral Suspension product.
 - currently made at a contract plant but agreement has fixed expiration date.
- Project Budget – \$65 million
- Scheduled Duration – 18 months + 3 months for validation

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But Wait! There's more...

New production to include;

- ...reformulation of existing product
 - new therapeutic application of existing product
- Existing OSD product coming 'off patent'
 - Need to have generic version ready for market
- Project to be "LEED Silver"
 - Local RE tax abatement
- Project must be complete by "a date certain"
 - window for grant closes unless "complete"

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Background Info

The Project Set-up

- Project executed as design-build AND bid-build;
 - D/B for expansion; bid-build for renovations
- D/B RFP Scope Package done by 'bridging' A/E;
 - Bridging A/E ineligible for D/B project
 - Any A/E is eligible for bid-build project
- Suspension product based on proprietary process;
 - Product is reformulation with new delivery system
 - 'new' process technology is "Gen 2";
 - Process technology co-developed with GP;
- D/B firm required to JV with the process tech mfg;



More Background Info ...did we mention...

- ...this is the first D/B project that GP has ever done...
- ...the 'bridging' A/E's team is led by extremely talented principal...with some unconventional tendencies – a pharma 'rock star';
- ...the 'bridging' A/E will serve as Owner's advisor thru construction of D/B scope;
- ...Bid-Build Design Scope won by D/B A/E;
- ...DCH has no 'in-house' process or architectural design capacity;
- ...2nd generation process equipment includes a specialty control microprocessor that is manufactured 'by others';

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Should be 'no problem' right???

(but then the rest of this game show would get real dull!)

- Original mill order "bumped" by 'higher bidder'
 - DCH shops for alternate source.
 - Structural Steel delayed 8 weeks.
- Process skids require 'revision' as piping arrangement 'anticipated' does not fit
 - DCH looks to designer, but designer is 'short staffed';
 - Piping install delayed 6 weeks.
- 2G controllers are delayed (unexpected production interruption);
 - controllers and power supplies are air-freighted;
 - difficulties in getting programmers in to set up units in the field;
 - Install and set-up of Process lines delayed 8 weeks.



What are the impacts of this situation?

Budget Overrun – 16% of TIC

Schedule – 3 months late

In addition, the thru-put is not meeting the target yields.

- DCH is looking to recover costs associated with...
- Extended Duration
- Expedited Deliveries
- Acceleration
- Additional Scope
- Gargantua is looking to recover costs associated with...
- Extended Internal Management
- Loss of Beneficial Use
- 'Overstay' penalties
- Consequential Damages



The Money?

Budget Overrun – 16% of TIC

Schedule – 4 months late

• Accepted Change Orders	\$4,200,000
• Expediting Costs	\$960,000
• Extended Duration Costs	\$507,000
• Acceleration Costs	\$3,400,000
• (Disputed) Added Scope	\$1,460,000
• Total \$\$\$ Overage	\$10,527,000

How do the \$\$ stack up?

- DCH's damages:
 - Extended Duration - \$500,000
 - Expedited Deliveries - \$960,000
 - Acceleration - \$340,000
 - Additional Scope \$1,460,000
- Gargantua's damages:
 - Extended Internal Management - \$120,000
 - Loss of Beneficial Use - \$300,000
 - 'Overstay' penalties - \$1,000,000
 - Consequential Damages -- \$5,000,000
 - Plus 10 year tax abatement = \$10,000,000



Those whose paths are not the
same do not consult one another.

Confucius

Discovery One

From Gargantua Pharma 2nd generation process required some changes to GP operations and procedures...

- ...which affected work/product flow
- ...which affected architectural layout

H. A. Murabi had numerous comments about DVB "product":

Slab flatness; pressure construction of fans; finish on high purity pipe; accuracy of airflow controllers, etc.

From Py Enasakai, Ltd.

- ...2nd G process equipment includes a specialty control microprocessor that is manufactured 'by others'...
- ...they are a relatively new firm (this is their 3rd order; previous orders were pilot scale – 1/4 the size; 1 of 3 by GP – all 1st 'G' process technology)...

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Discovery Two

From DCH

- DCH is awarded a larger 'food processing' project at Month 4 of the GP project (FDA & HACCP Stds.) with an ultra-fast track schedule.
- DCH's workload was a 'little light' when they bid the GP project so they bid it 'tight'

From Entropy Technologies

- ...great technology platform
- ...has had some trouble delivering controllers

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Now...



Exemplary people understand matters of justice;
small people understand matters of pride.
- Confucius

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سورة زمر

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Discovery Digs Deeper

From Gargantua Pharma

- GP's experience with pilot scale Py Enasakai equipment had 'reliability' problems – based on 1st G technology
- GP had replaced Director of Compliance and Manager of QC/QA 4 months prior to award to DCH – they arrived after the pilot studies were completed

From Py Enasakai, Ltd.

- ...their second 'buyer' was a VC-funded biotech...
- ...they have experienced delays in getting components from suppliers including 2G microprocessor

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Deeper Discovery

From DCH

- DCH had a large project go on hold just before the GP bid and terminate (for convenience) during the course of the GP project (about 2 months after start of GP)...
- DCH is awarded a larger 'food processing' project at Month 4 of the GP project (FDA & HACCP Stds.) with an ultra-fast track schedule.
- DCH's workload was a 'little light' when they bid the GP project so they bid it 'tight'

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Discovery Digs Deeper

From Entropy Technologies

- ...great technology platform
- ...has had some trouble delivering controllers
- ...plant located in Israel

From H.A. Murabi & Associates

- H.A. Murabi had been a principal at E.P. Hemeral; left 'disgruntled'
- Murabi's wife divorced him after he left...and married Hemeral.

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Discovery Digs Deeper

From E. P. Hemeral Associates

- approx. 40% of E. P. Hemeral's office buys a PowerBall ticket in 2nd month of project – they hit, divide the winnings and approximately 1/3 of the office 'retires'...
- E. P. Hemeral has a heart attack and is out of work for 30 days
- ...he did NOT buy in on the lottery tickets ☹

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Survey Says

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VOL. 2
*(or how do we avoid this stuff in
the first place)*

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Dispute Avoidance

*An ounce of prevention is worth a
pound of resolution!
(and 2 pounds of 'cure'!)*
- Benjamin Franklin (adapted)

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Common Problems

(in 'biz-tech' speech)

- Limited Interaction and communication between all key project parties;
- "Short term" contextual conditions with long-term consequences;
- Linearly analytical design approach;
- Failure to properly allocate internal knowledge capital

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Common Problems

(in common terms)

- Confusion on scope of work
- Confusion on delivery 'intent'
- Confusion on the project's 'why'
- Ideological zealotry
- Poor analysis methodology
- Bad assumptions
- Confusion on assignments

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'Design' Disagreement Out...

Project Set-up,
Initiation
and
Execution

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Everybody gets to win! A Stake In Achieving Project Goals

- | | |
|--|--|
| <ul style="list-style-type: none"> • Positive • Quality: Extended warranty periods/o&m duties • Cost: Share cost savings • Performance Goals: Bonuses for exceeding performance requirements | <ul style="list-style-type: none"> • Negative • Liquidated damages <ul style="list-style-type: none"> – No Damage For Delay clauses • Condition acceptance and final payment on vague surveys • Excessive risk transfer <ul style="list-style-type: none"> – forces bidders to inflate prices. |
|--|--|

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The 'alpha' Conceptual Design

Programming Phase – Project Definition

- Critically examine assumptions
 - Create explicit parameters for the project.
- Review and Test
 - Scope
 - Schedule
 - Budget

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The 'omega' Start-up, Testing & Turnover

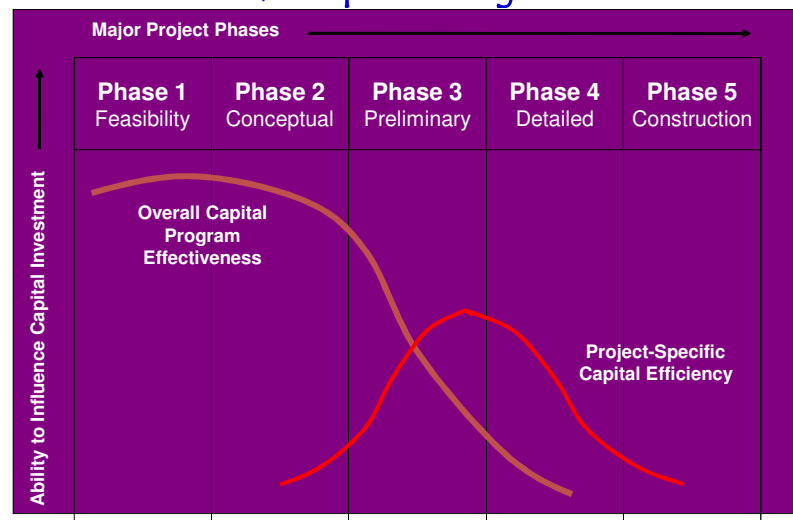
- Special Equipment
- Test Procedures
- Training

Operation 'Nuts & Bolts'

- User Expectations
 - Operability
 - Maintainability
 - Reliability

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Managing Project Performance and Closeout, Scope Management



Source: Watson, Noel G., *WorldEnergy*, Vol. 5 No. 1, 2002, pg. 153

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Ingredients for a Successful Project

- Project Definition
- Proper Planning
- Appropriate Design
- Fair Contracts
- Team Development
- Rapid and Fair problem resolution
- Financial Stability and...



... the ability to adapt to changing circumstances!

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Be like water.....



Thank you

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E. Mitchell Swann, P.E., LEED AP Professional Bio

- Drexel University, Bachelor of Science, Mechanical Engineering, 1981
- Professional Engineer: Pennsylvania, New Jersey, New York, Connecticut, California, Michigan, Illinois, Georgia, Kentucky, Texas; US Green Building Council LEED Accredited Professional
- Professional Affiliations: American Bar Association, American Society of Heating, Refrigeration, and Air Conditioning Engineers, International Society of Pharmaceutical Engineering, US Green Building Council, Defense Research Institute
- Over 25 years of extensive experience on both domestic and international projects in the areas of management consulting and problem solving, engineering design, project and construction management, forensic engineering and construction claims analysis. Mr. Swann's career includes the analysis, evaluation and design of complex systems across a wide range of industries and buildings types including commercial, institutional and industrial facilities, hospitals laboratories, pharmaceutical manufacturing, microelectronic operations and data centers. Mr. Swann has chaired technical committee within national and international organizations and been a contributing author and editor for a number of technical publications and journals. He is a frequent speaker both nationally and internationally and is a listed member of the speakers' bureau in the Distinguished Lecturer program of ASHRAE. He has recently presented on Green Building issues in Indiana, Chicago, Kansas City, Virginia, New York and Delaware. He is a contributing author to the ASHRAE "Green Guide – The Design, Construction and Operation of Sustainable Buildings" and co-author of the ASHRAE Survival Guide to Design|Build Project Execution.
- Other Activities: The Engineer's Club of Philadelphia – Board of Directors; Drexel University - Alumni Board of Governors

MDCSystems® *Summary of Services*

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- 'Out of Bounds'/'Go – No Go" Limits

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- Master Scheduling including...
 - Resource & Constraint Analysis

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 - Instrumentation & Controls
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 - Overhead & General Conditions
- Business Interruption & Lost Profit