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Understanding LEG clauses and Delay in Start-Up Insurance

26 January 2017



Speakers today

Iftikhar Ali
Simmons & Simmons LLP

Steven Horne
Capital Consulting International

Markus Heiss
MDD Forensic Accountants



Structure of the presentation

- Context in which LEG clauses arise for consideration
- LEG 1/96; LEG 2/96; and LEG 3/06
- Examples showing application of LEG 2/96 and LEG 3/06
- DSU Insurance

Context

- London Engineering Group Model Defect clauses used in Project works insurance policies
- Typical Insuring Clause: “unforeseen and sudden physical loss or damage”.
- Root cause of the loss is a defect in design
- Coverage response for defects vary considerably depending on the precise wording of the clause used
- Drafting of defect clauses can be subtle but impact on policy response can be dramatic
- Coverage response will turn on relevant facts and applicable law

Questions or Issues that typically arise

- How do you apply LEG 2/96?
- Are access costs covered under LEG 2/96?
- What is “manifestation of defects under ordinary usage”?
- What is an improvement under LEG 3/06?
- How do you cost improvements under LEG 3/06?
- How do you assess DSU cover when you have both damage and design defects?

LEG 1/96

Model “Outright” Defects Exclusion

- The Insurer(s) shall not be liable for:

Loss or damage due to defects of material workmanship design plan or specification.

What kind of defects are we talking about?

- A number of defects are addressed:
 - Defects of design plan and specification
 - Defects of material
 - Defects of workmanship

LEG 2/96

Model “Consequences” Defects Wording

- The Insurer(s) shall not be liable for:

All **costs** rendered necessary by defects of material workmanship design plan or specification and **should damage occur** to any portion of the Insured Property containing any of the said defects the cost of replacement or rectification which is hereby excluded is that **cost which would have been incurred if replacement or rectification of the Insured Property had been put in hand immediately prior to the said damage.**

For the purpose of this policy and not merely this exclusion it is understood and agreed that any portion of the Insured Property shall not be regarded as damaged solely by virtue of the existence of any defect of material workmanship design plan or specification.

LEG 2/96

Model “Consequences” Defects Wording

- The Insurer(s) shall not be liable for:

All **costs** rendered necessary by defects of material workmanship design plan or specification....

LEG 2/96

Model “Consequences” Defects Wording

- The Insurer(s) shall not be liable for:

...and **should damage occur** to any portion of the Insured Property containing any of the said defects ...

LEG 2/96

Model “Consequences” Defects Wording

- The Insurer(s) shall not be liable for:

...that cost which would have been incurred if replacement or rectification of the Insured Property had been put in hand immediately prior to the said damage.

...

LEG 2/96

Example of basement car park

- Basement car park is built below ground on piles and below the level of the water table.
- A waterproof membrane has been used between the piles and the concrete car park structure to stop water ingress.
- Structure is nearly finished. Lifts have been installed and finishes.
- The dewatering equipment is switched off in order to finish the work. But water soon floods the car park.
- Tanking system now needed to resolve.

LEG 3/06

Model “Improvement” Defects Wording

- The Insurer(s) shall not be liable for:

All **costs** rendered necessary by defects of material workmanship design plan or specification and should damage (which for the purposes of this exclusion shall include any patent detrimental change in the physical condition of the Insured Property) occur to any portion of the Insured Property containing any of the said defects the **cost of replacement or rectification which is hereby excluded is that cost incurred to improve the original material workmanship design plan or specification.**

For the purpose of this policy and not merely this exclusion it is understood and agreed that any portion of the Insured Property shall not be regarded as damaged solely by virtue of the existence of any defect of material workmanship design plan or specification.

LEG 3/06

Model “Improvement” Defects Wording

- The Insurer(s) shall not be liable for:

All **costs** rendered necessary by defects of material workmanship design plan or specification

LEG 3/06

Model “Improvement” Defects Wording

- The Insurer(s) shall not be liable for:

...and should damage (which for the purposes of this exclusion shall include any patent detrimental change in the physical condition of the Insured Property) occur to any portion of the Insured Property containing any of the said defects....

LEG 3/06

“Manifestation”

- In *Skanska Construction Ltd v Egger (Barony) Ltd* (2002) the Court of Appeal discussed the question of “manifestation” of damage. Lord Justice Mance

“...all that has happened in the present case is that the floor slab was (allegedly) badly designed and/or constructed, and that the alleged defects in design and/or construction manifested themselves in cracking...under ordinary usage. Had the defective design and/or construction been observed before any usage (the contractor) would have had to make good or replace the defective slab as necessary...In this contractual scheme, **the mere manifestation of an effect under ordinary usage, which the contractor is any way obliged to make good under the contractual scheme relating to defects, cannot in my judgment constitute loss or damage to the slab for the purposes of the insurance requirement.**”

LEG 3/06

Model “Improvement” Defects Wording

- The Insurer(s) shall not be liable for:

All **costs** rendered necessary by defects of material workmanship design plan or specification and should damage (which for the purposes of this exclusion shall include any patent detrimental change in the physical condition of the Insured Property) occur to any portion of the Insured Property containing any of the said defects the cost of replacement or rectification which is hereby excluded is that **cost incurred to improve the original material workmanship design plan or specification.**

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LEG 3/06

Model “Improvement” Defects Wording

- The Insurer(s) shall not be liable for:

...the cost of replacement or rectification which is hereby excluded is that **cost incurred to improve the original material workmanship design plan or specification.**

...

LEG 3/06

Improvement or not an improvement?

- Restoring the as-constructed or intended functionality.

- Cost of additional work over and above those initially intended.
 - Cementation Piling and Foundations v Aegon Insurance and Commercial Union (1994) – Court of Appeal.

LEG 3/06

Example of water treatment facility concrete tanks

- A water treatment facility involving the production of a series of large concrete water-retaining tanks has been built in the Middle East.
- During testing, all the concrete tanks exhibit surface cracking and substantial water leakage.
- Wrong concrete mix and insufficient steel reinforcement.
- The engineering report says the design of the tanks was fundamentally flawed.
- The owner of the facility is concerned as it seems extensive works require to be undertaken to improve the design of the concrete tanks to avoid total failure, stop the leaking water and then commence commercial operations.
- Should you pay the claim?

Delay in Start-Up Insurance

What does it cover?

- It covers loss of profits.
- Triggered by the occurrence of indemnifiable physical damage to property.
- Its inclusion is often demanded by lenders.
- DSU is a complex insurance product that requires careful evaluation and consideration of the varied nature of risks.

Delay in Start-Up Insurance

The cover

■ Typical DSU Insuring Clause:

- *“The policy shall indemnify the Insured(s) for loss of gross profit actually sustained due to reduction in turnover and the increased cost of working as defined in this Section, if at any time during the period of insurance the insured contract works suffer loss or damage covered under Section 1 of this policy that causes a delay of commencement with the insured business.”*

Delay in Start-Up Insurance

Features

- Actual loss of gross profit sustained
- Covers increased cost of working to mitigate loss of gross profit – economic test to be satisfied
- Only covers delays caused by covered physical damage events
- Issue is often did the indemnifiable event cause the delay?

Delay in Start-Up Insurance

Application to our water treatment facility example

- The loss was caused by a fundamental defect in design.
- Physical damage has been found either by way of cracking or deflection of the steel rebar.
- Improvements are not covered as those are costs for the insured to bear.
- That principle is then extended into the DSU cover. The insurer is not responsible for remedying any time element for re-designing or improving the design.

Delay in Start-Up Insurance

Application to our water treatment facility example

- Counter-arguments we have seen advanced
 - What happens to the time element for repairing the damage?
 - DSU covers errors in design.
 - DSU triggers if the loss occurred near the end of the scheduled commercial operation date.

Concluding comments

- LEG 2/96 requires a very fact specific exercise, which means gathering information as early as possible after the claim is key.
- LEG 3/06 triggers upon the finding of damage which opens up a gateway for cover but improvement costs have to be excluded.
- Beware of counter arguments on improvements that are incorrect:
 - Original functionality argument
 - Additional work above those initially intended
 - Rectification of design

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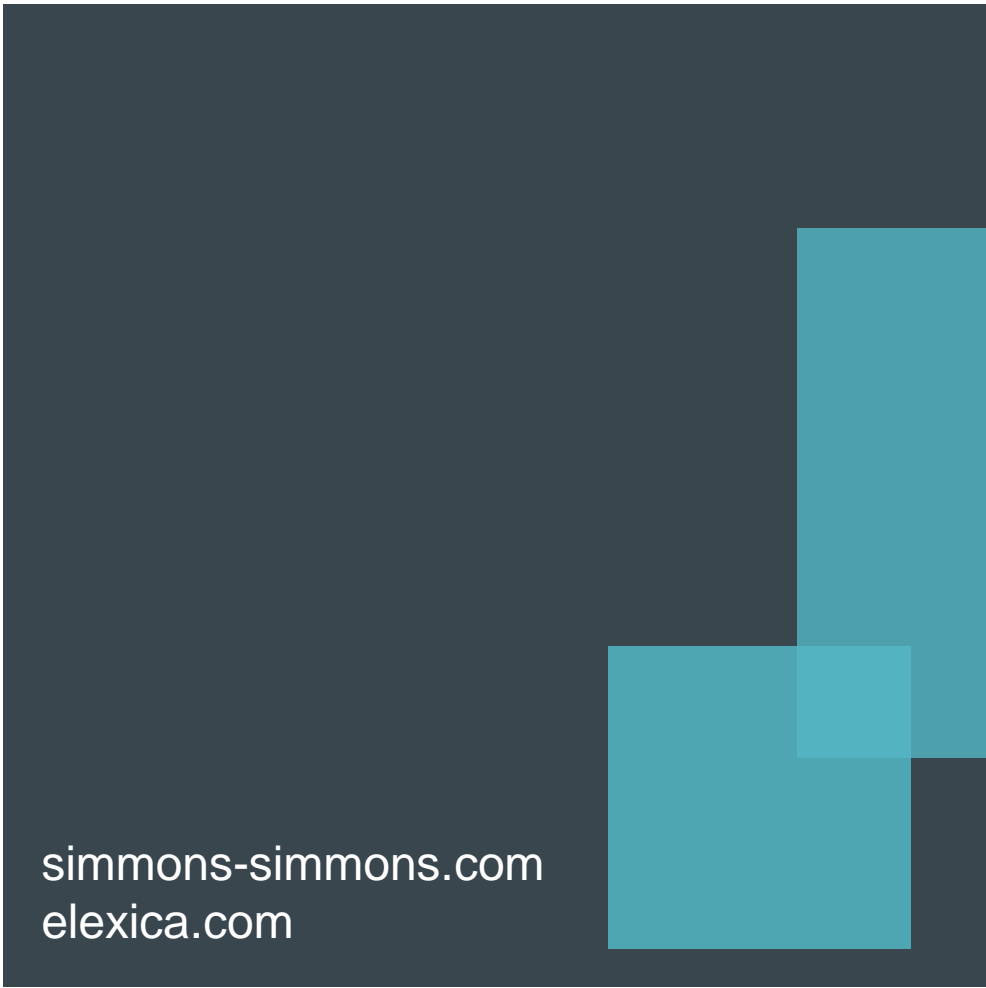
Iftikhar Ali
Of Counsel

Simmons & Simmons LLP
CityPoint
One Ropemaker Street
London EC2Y 9SS
T+44 20 7628 2020 F+44 20 7628 2070
DD+44 20 8254 560 M+44 7921 584 355
iftikhar.ali@simmons-simmons.com

Iftikhar leads the construction all risks practice at Simmons & Simmons. He has mediated, arbitrated and litigated for clients on major construction and engineering projects of all types. His specialisms include advising on liability, cover and comparative law issues in the areas of property, energy, machinery breakdown and operating risks internationally. Iftikhar has advised on and managed investigations and public and third party liability claims all around the world specifically in Latin America, Middle East and North Africa.

Indicative Work:

- Brazilian mining operation. Advising under a combined single limit property damage and business interruption policy for multiple complex claims arising from the failure of business critical assets at the facility and third party liability.
- Construction of hydroelectric power station in Peru. Advising under a construction all risks (CAR) policy on the failure of a vertical structure that is a business critical asset to the operation of the plant. Advice includes London Engineering Group clause, potential Business Interruption and international tunnelling code of practice issues.
- Expansion of power plant in Bolivia involving engineering and installation of new turbines. Advising under construction/erection all risks (EAR) policy for claims in respect of the material liberation from blades during tests.
- Construction project for oil refinery plant in Dubai. Advising under a CAR policy on damage to a series of transformers fitted to a high pressure train and low pressure train at a Dubai Power Station.
- Construction and engineering project for oil pipeline installation in Colombia. Advising on liability under CAR/EAR policy for issues arising from a failed horizontal directional drilling operation for the installation of an oil-pipeline beneath a major river crossing.
- Extension of oil refinery in Colombia. Arbitration in Colombia relating to catastrophic damage to a water diversion project and crude vacuum structure - both business critical assets for the refinery.
- Construction of oil rigs in Libya. Advising on the applicability of war and terrorism exclusion for damage to oil rigs in Libya arising on or around the same time of the Libyan conflict.
- Construction of Saudi Arabian power plant. Advising on cross-liabilities provision and cover under multiple sections of a CAR policy arising from a flue gas desulphurisation unit fire loss.



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Understanding LEG clauses and DSU

Delay Analysis

Steven Horne
26 January 2017

- Brief overview of general methodology for DSU Delay Analysis
- How a delay analyst should approach each LEG clause
 - LEG 1/96
 - LEG 2/96
 - LEG 3/06
- Common issues when discussing defect related delays with insureds and contractors.

- Briefly, DSU consists of the difference between two dates:
 1. Actual Business Commencement Date
 2. Scheduled Business Commencement Date
 - SCOD, SDCIB, SDCB etc.
- ABCD doesn't require defining
- SBCD is slightly more complicated
 - *The date stated within the policy, or any other such later date upon which **the insured business would have commenced had the damage not occurred***
- In effect, SBCD equals the ABCD minus the impact of damage
i.e. 'collapse' out delays caused by Damage from the 'As-Built' Schedule

What's Excluded?

“Loss or damage due to defects of material workmanship design plan or specification.”

Delay Analysis Approach

The same as all ‘non-incident related’ delays

All excluded, with any critical delay directly impacting the Scheduled Business Commencement Date.

What's Excluded?

“cost which would have been incurred if replacement or rectification of the Insured Property had been put in hand immediately prior to the said damage.”

Delay Analysis Approach

Hypothetical 'Non-Damage' Scenario

Very dependent upon nature of Defect.

- i.e. Workmanship vs Design

Examples

Workmanship

- Fire caused by loose electrical connection

Time to rectify defect, absent the damage, is likely to be negligible.

Where more significant issues occur, workmanship rectification is ordinarily a clear linear process.

Where post loss monitoring is in place, chronology can be identified and 'hypothetical' produced.

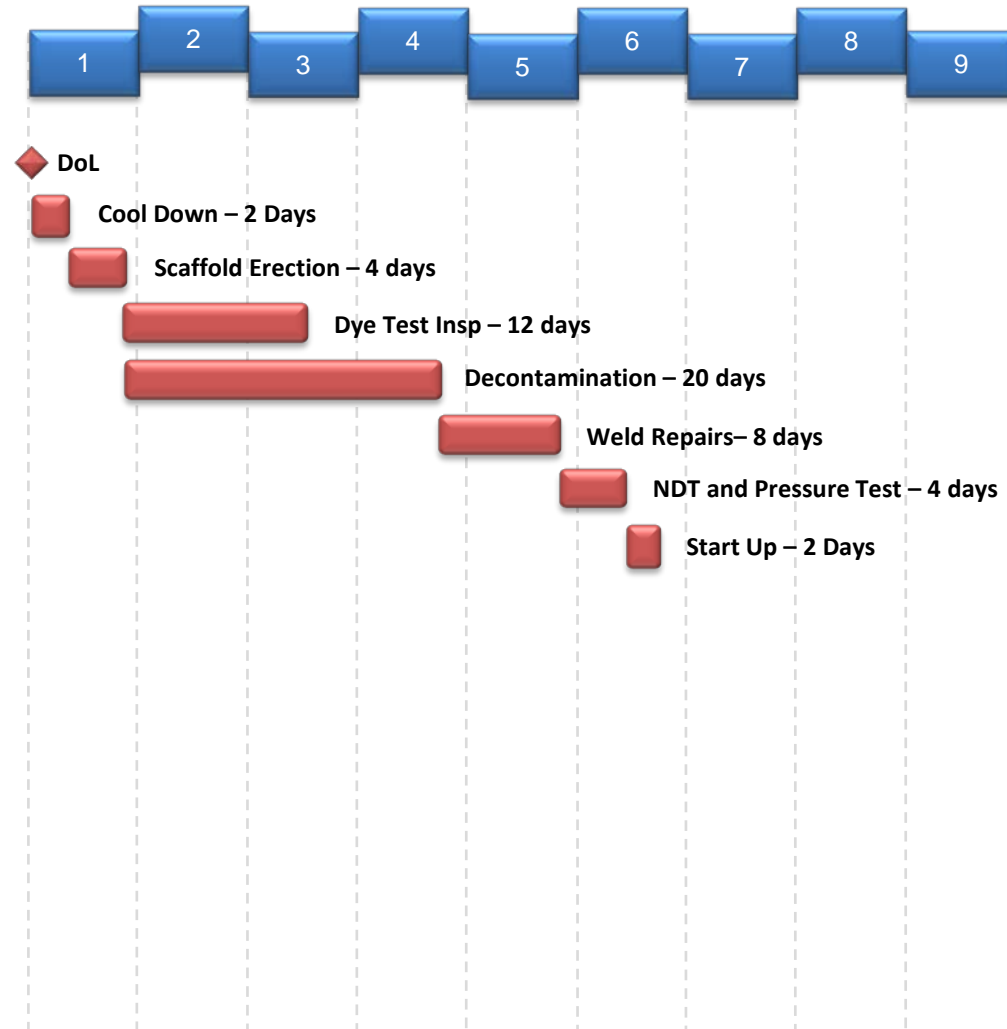
Example Chronology

Workmanship

- Superheater pipework leak caused by defective weld within boiler:

Actual Repair and Rectification Duration

- **40 Days**



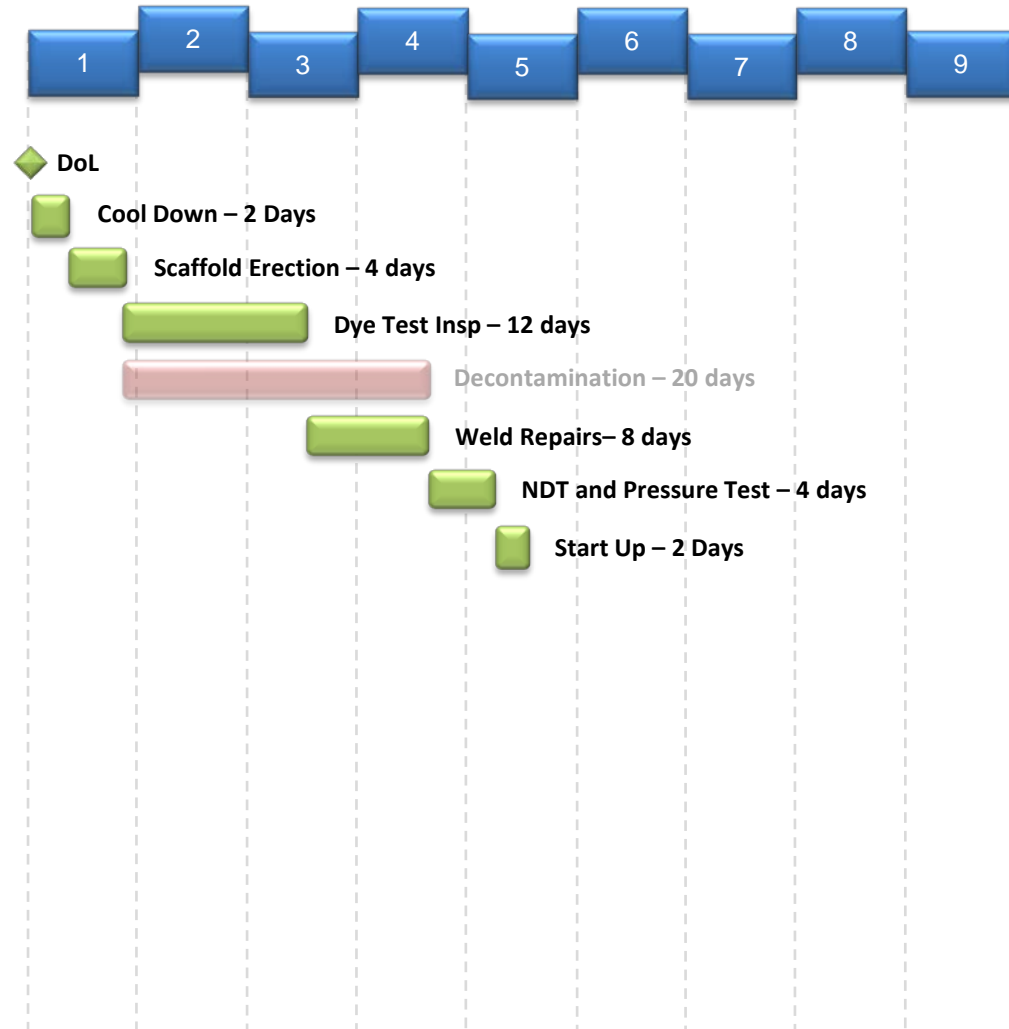
Example Chronology

Workmanship

- Superheater pipework leak caused by defective weld within boiler:

‘Hypothetical But For Damage’ Duration

- 32 Days = Defect



Example Chronology

Workmanship

- Superheater pipework leak caused by defective weld within boiler:

Insured's 'Hypothetical Repair Only' Duration

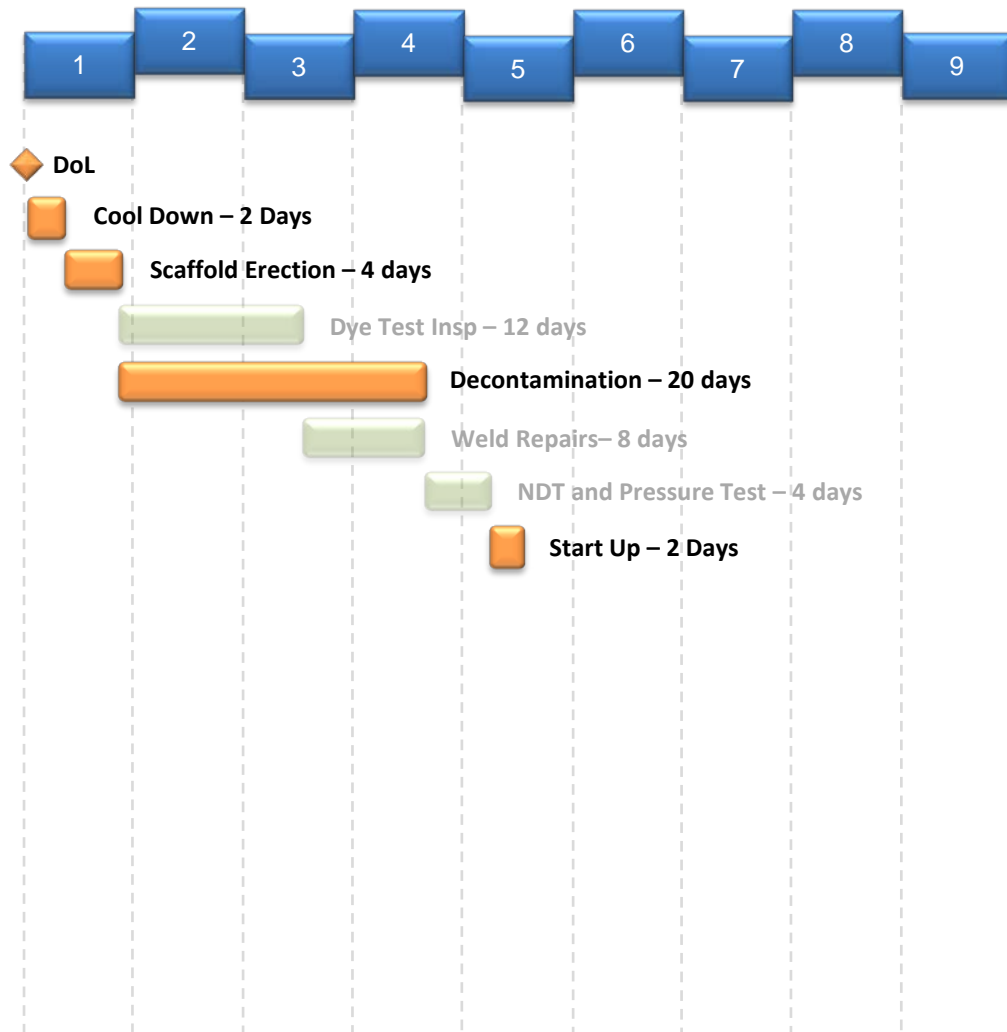


Example Chronology

Workmanship

- Superheater pipework leak caused by defective weld within boiler:

Insured's 'Hypothetical Repair Only' Duration



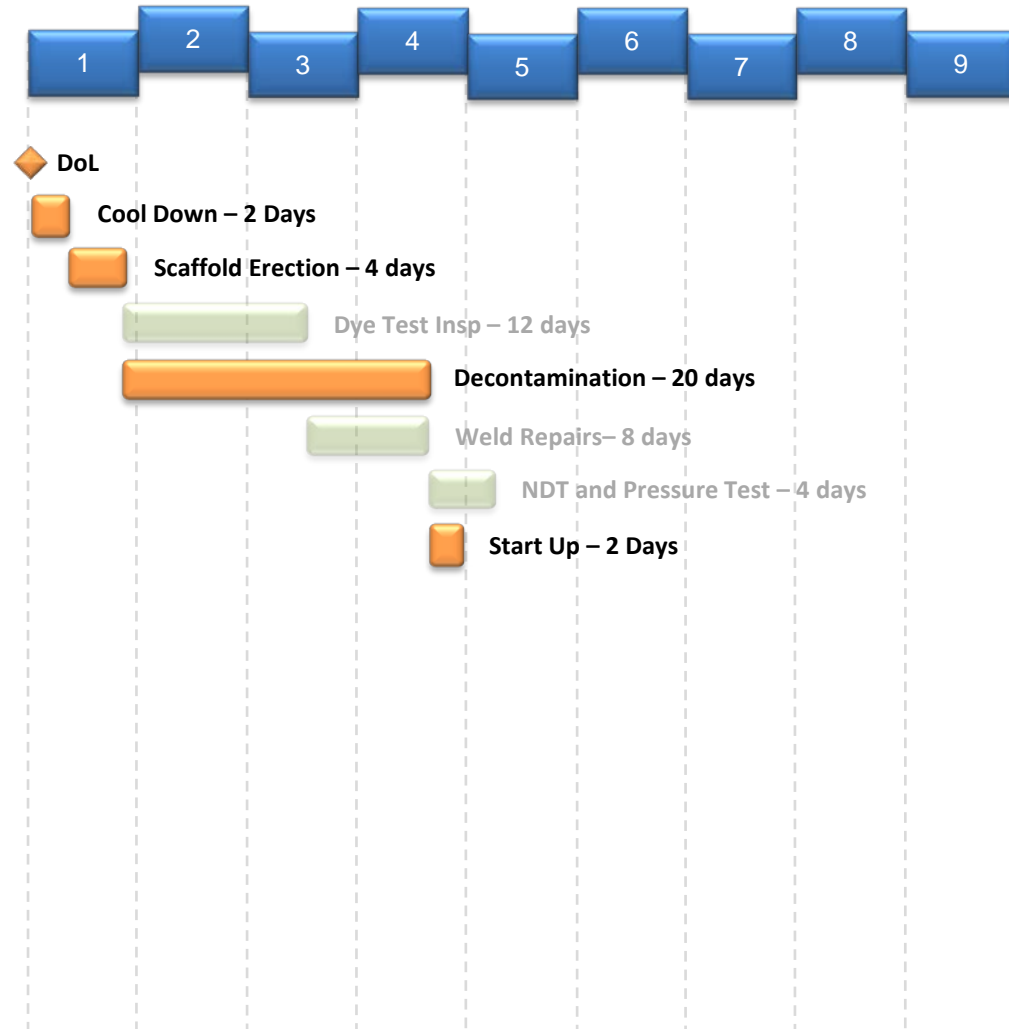
Example Chronology

Workmanship

- Superheater pipework leak caused by defective weld within boiler:

Insured's 'Hypothetical Repair Only' Duration

- 36 Days
- 4 Days = Defect



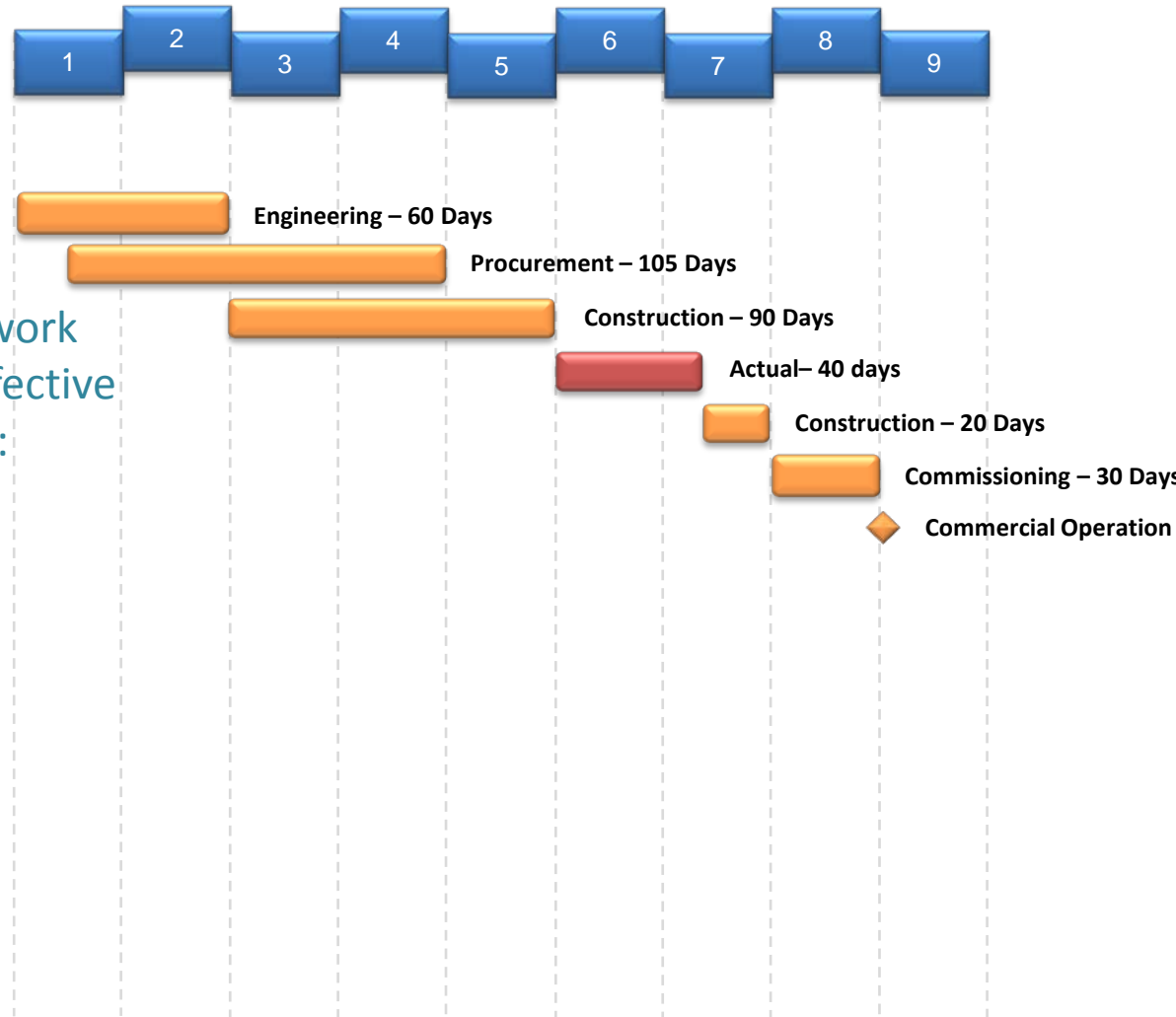
Example Chronology

Workmanship

- Superheater pipework leak caused by defective weld within boiler:

Overall Project Duration

- 240 Days



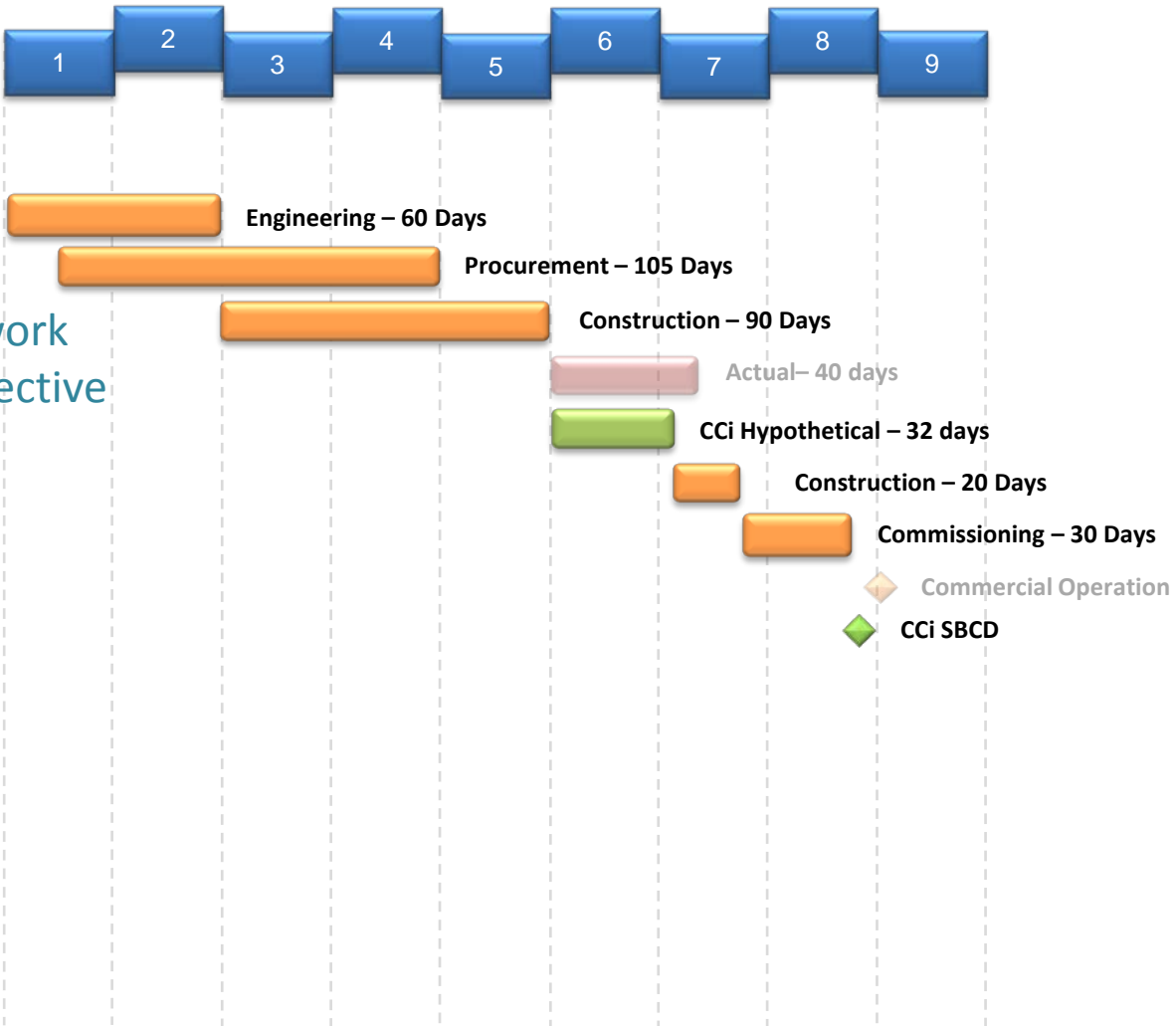
Example Chronology

Workmanship

- Superheater pipework leak caused by defective weld within boiler:

CCi 'But For' Damage Duration

- 232 Days
- (8 day DSU)



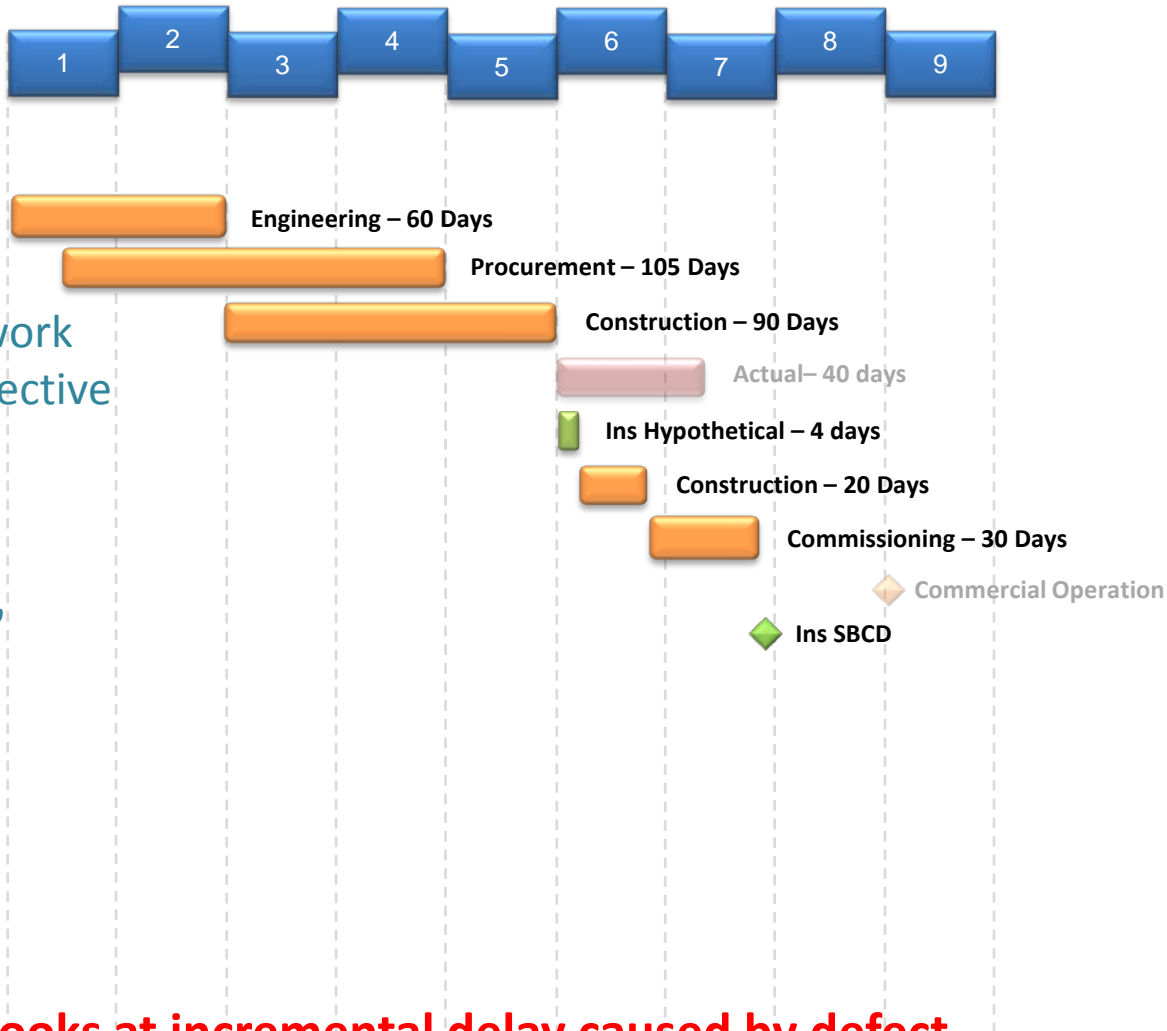
Example Chronology

Workmanship

- Superheater pipework leak caused by defective weld within boiler:

Insured's 'But For' Damage Duration

- 204 Days
- (36 Day DSU)



Insured's position looks at incremental delay caused by defect rectification and not the 'hypothetical' time "prior to damage"

Examples

Design

- **Specification of valves not fit for purpose.**

Time to rectify defect, absent the damage, is likely to be significant.

Investigate > Re-Design > Re-Fabricate (long lead?) > Re-ship > Re-install (including subsequent trades?)

Potential for this process to be the dominant cause of delay over damage repair

- Potentially no delay resulting from damage.

Examples

Material

- **Defective Magnetic Coil in IP Valve**

Potentially similar process to be followed as design defect (minus re-design?).

Investigate > Re-Fabricate (long lead?) > Re-ship > Re-install (including subsequent trades?)

- Rectification requiring OEM input and offsite remediation can be lengthy and be the dominant cause of delay.
- However, if parts are readily available, or held in spares, damage repair is likely to be dominant.

What's Excluded?

“cost of replacement or rectification which is hereby excluded is that cost incurred to improve the original material workmanship design plan or specification.”

Delay Analysis Approach

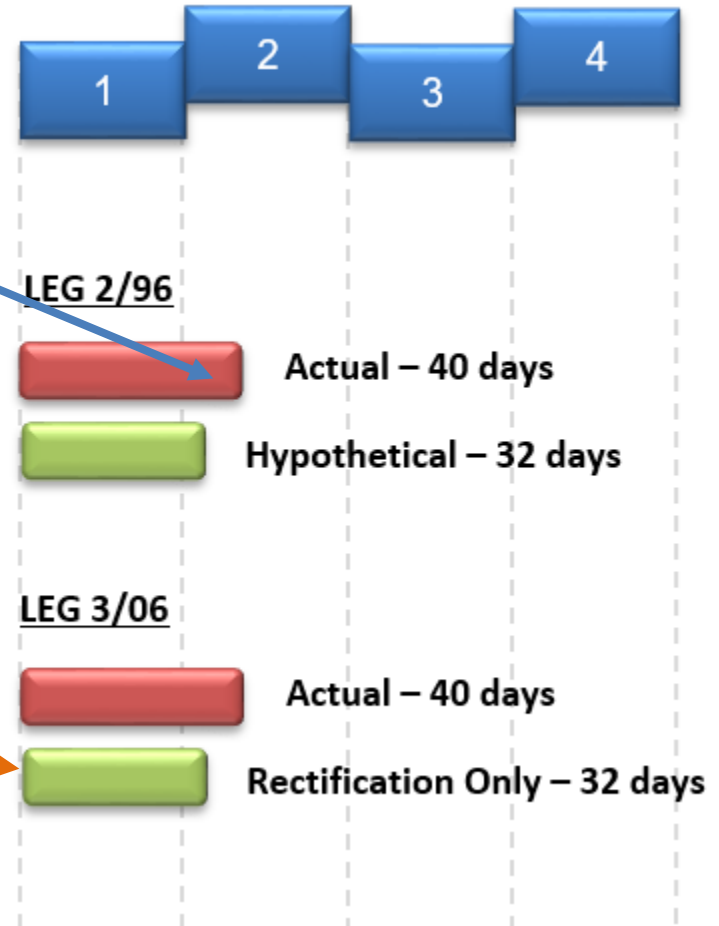
Hypothetical “rectification only” scenario required.

Where, the actual time to rectify and improve the original exceeds the “rectification only” timescale, the incremental time will be excluded.

This is effectively a direct contrast to the application of Leg 2/96

- **LEG 2/96 = 8 day entitlement.**
- Only incremental impact of damage is indemnifiable, not defect rectification.

- **LEG 3/06 = 32 day entitlement.**
- Defect rectification (and damage) is indemnifiable and not incremental impact of improvements.



Question

Where does Defect Rectification end and Improvement begin?

Material Defects

- Seems straightforward, is a like-for-like material being utilised?

Workmanship Defects

- Seems straightforward, is a like-for-like method being utilised?

Design Defects

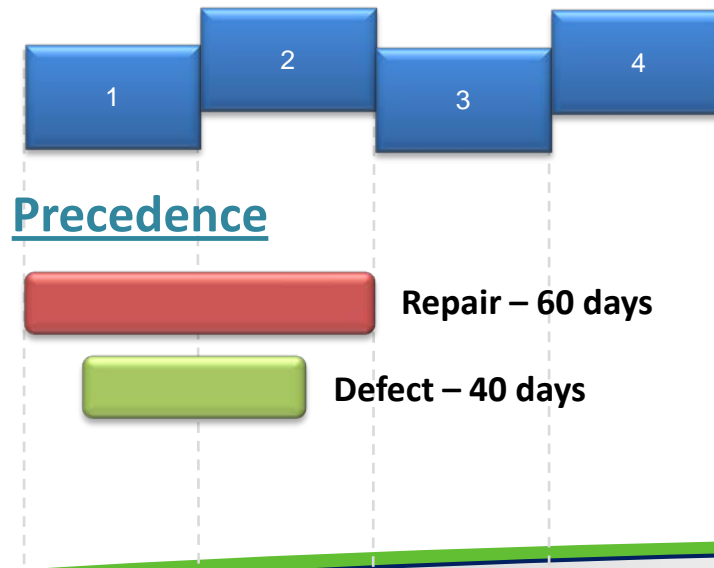
- Surely some element of re-design is required to rectify the originally defective design?

Is any change away from the original purely classed as improvement?

Issues

1. **Concurrency** – Avoiding mindset of traditional construction disputes

- *Apportionment*
- *Earliest incident takes precedence*



Issues

- 1. Concurrency** – Avoiding mindset of traditional construction disputes
 - *Apportionment*
 - *Earliest incident takes precedent*
- 2. LEG 2/96 ‘But For’ Argument** – Without damage we wouldn’t have known about defect.
- 3. LEG 3/06 Classification of Improvement** – It’s purely defect rectification or a mitigating measure, not improvement.

Discussion



LEG Clauses & Apportionment of DSU

26th February 2017

Presenter

Markus Heiss, ACMA, CGMA

Partner

mheiss@mdd.com



Insured

Uninsured



Insured
Uninsured

... principle DSU cover.

The insurer is not responsible for remedying **any time element** for re-designing or improving the design.

Delays

Insured

(Repair of Damage)

Vs

Uninsured

(Defects due to LEG 1, 2 and 3)

Delay in Start Up

a) In respect of Insureds 1. and 3. only of Section II :-

Gross Profit, including Capacity charges, Debt Service and/or fixed and continuing expenses and/or Increased Cost of Working arising from a delay to the Anticipated Date(s) for the Commencement of Commercial Operations as a consequence of Loss or Damage.

b) In respect of Insureds 2. and 3. only of Section II:-

Debt Service only, being Principal and Interest, payable following a delay to the Anticipated Date(s) for the Commencement of Commercial Operations as a consequence of Loss or Damage.

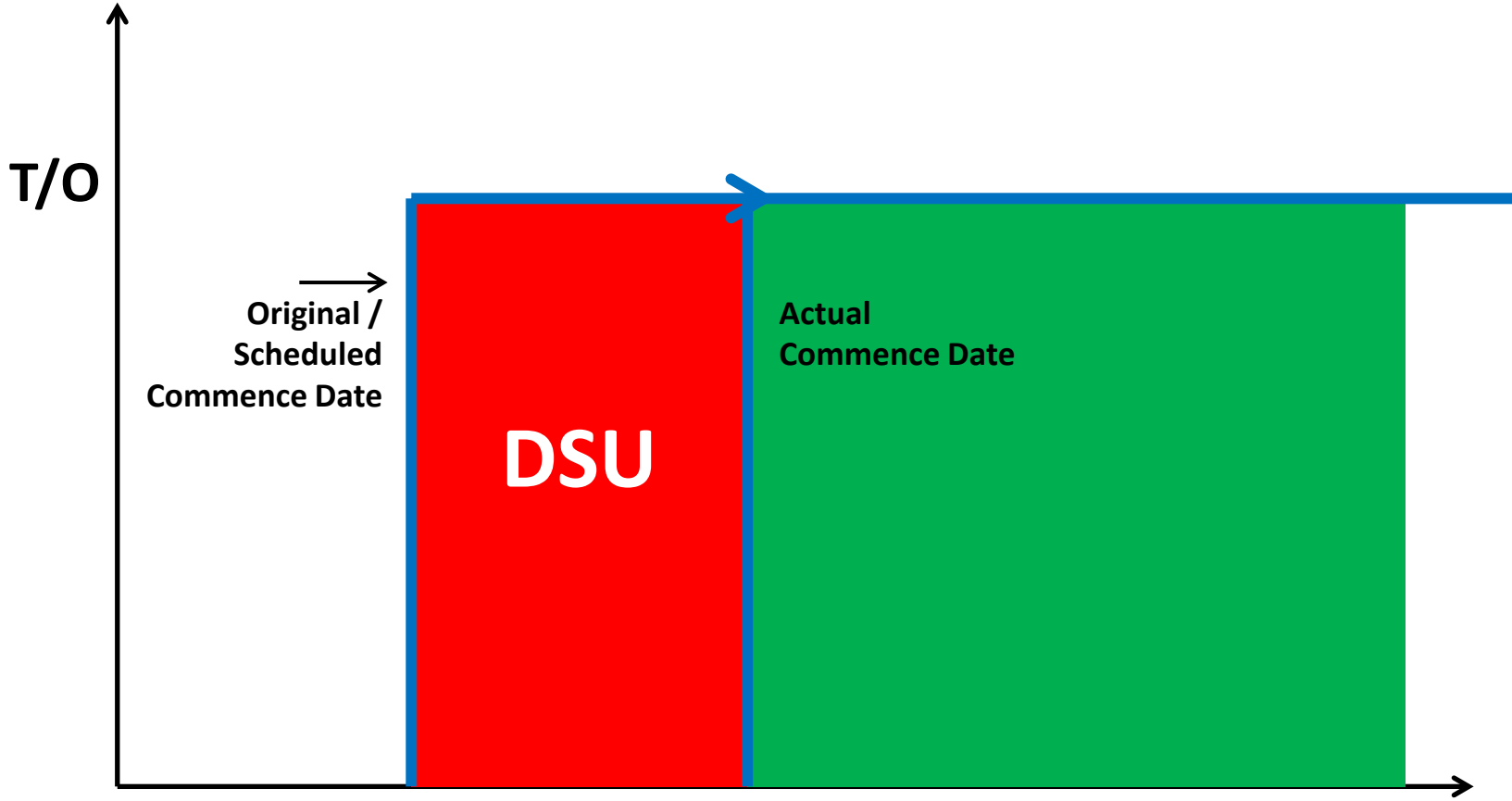
Interest Insured

Section III - Advance loss of Profit

Loss of Gross Profit and/or Costs of servicing loans and/or debts and/or Increased cost of working (incurred to minimize a claim under this section) as a result of any occurrence of physical loss or damage to property insured under Section I above, and which is the subject of an indemnifiable claim, and results in a Delay in Start Up to the Project, based on actual loss sustained

The Insurers shall indemnify the Insured in respect of loss of Modified Gross Margin and Increased Cost of Working incurred following a reduction in Turnover if Property Insured suffers Damage indemnifiable under Section One (or which would have been indemnifiable but for the application of the Deductible) thereby causing an interference in the construction / erection work and/or testing schedule resulting in a delay in the Scheduled Date of Commencement of the Insured Business, hereinafter referred to as the "Delay".

Delay Illustration

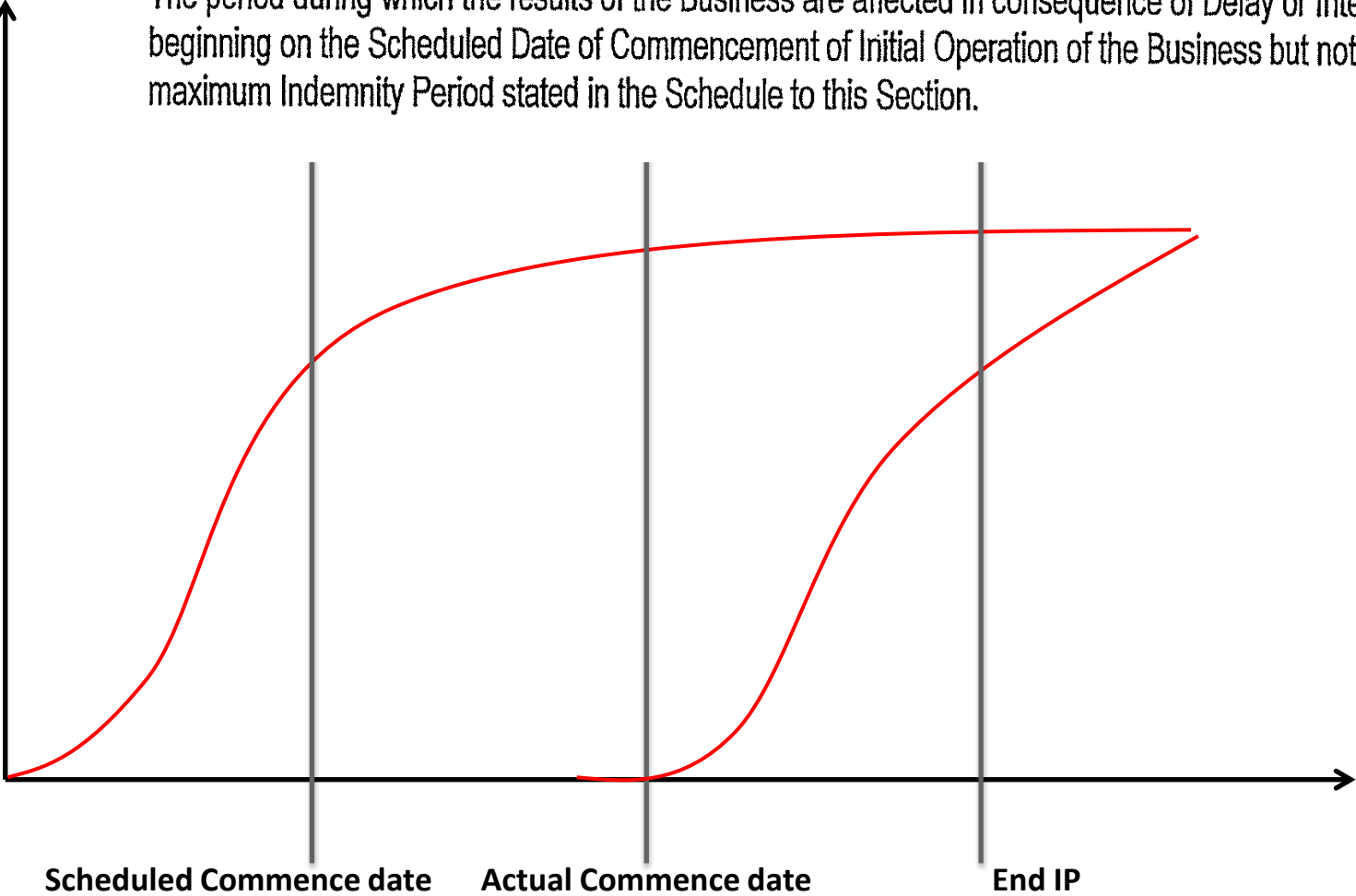


Indemnity Period



2. Indemnity Period

The period during which the results of the Business are affected in consequence of Delay or Interruption, beginning on the Scheduled Date of Commencement of Initial Operation of the Business but not exceeding the maximum Indemnity Period stated in the Schedule to this Section.



Deductible Specimen



DEDUCTIBLES:

Section I – Construction/Erection All Risks and Operational Material Damage

USD 1,000,000 each and every loss in respect of LEG 2/96, Hot Testing, Commissioning, Reliability Run, Start-up and Initial Operation.

USD 1,000,000 each and every loss in respect of Earthquake and Flood

USD 100,000 each and every loss in respect of inland transit

USD 500,000 each and every other loss

Section II – Delay in Start Up and Business Interruption

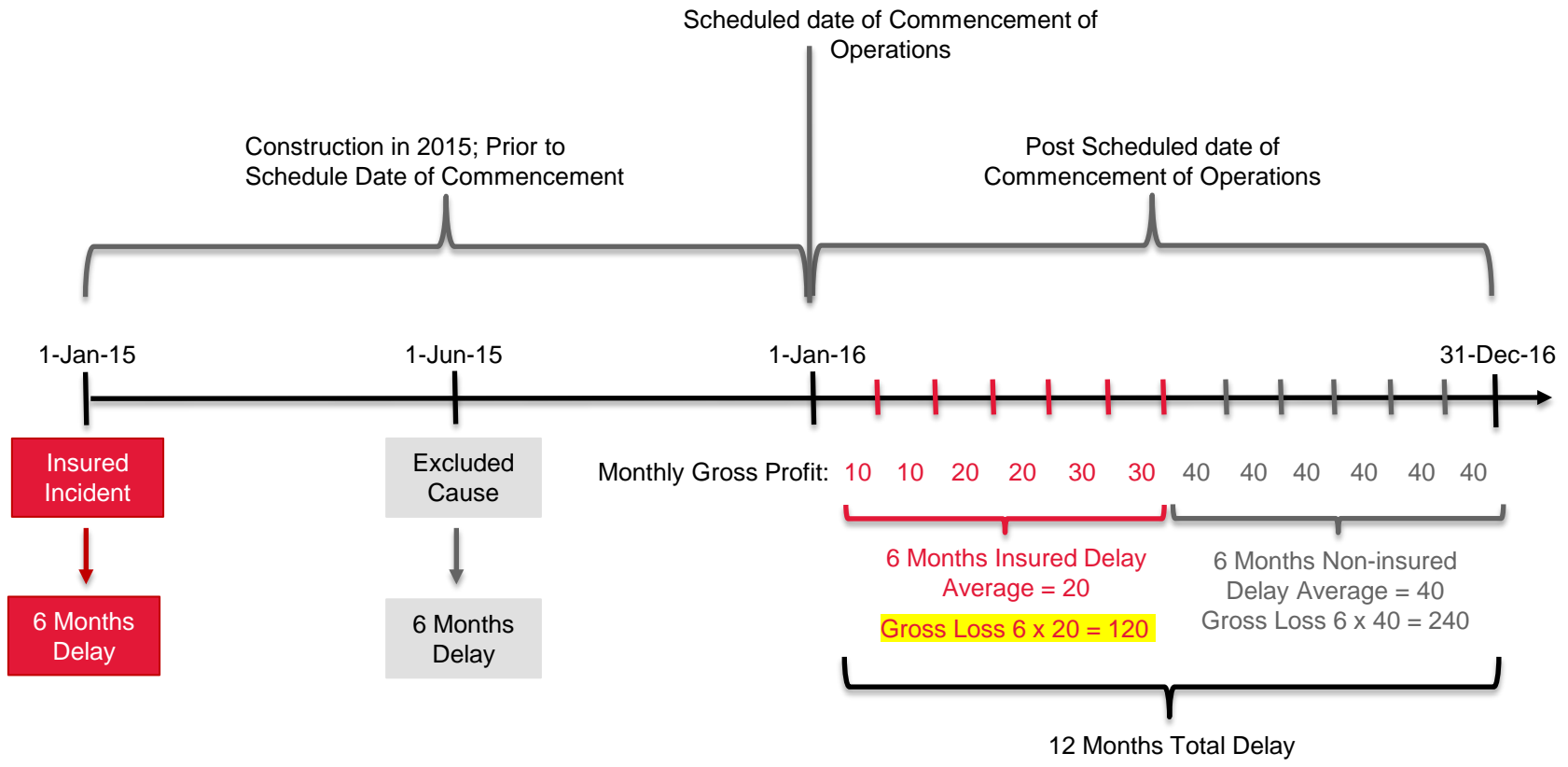
Delay in Start-up
75 days in the aggregate in respect of each unit

Business Interruption
60 days any one occurrence

Section Two

90 days in the aggregate

Scenario 1

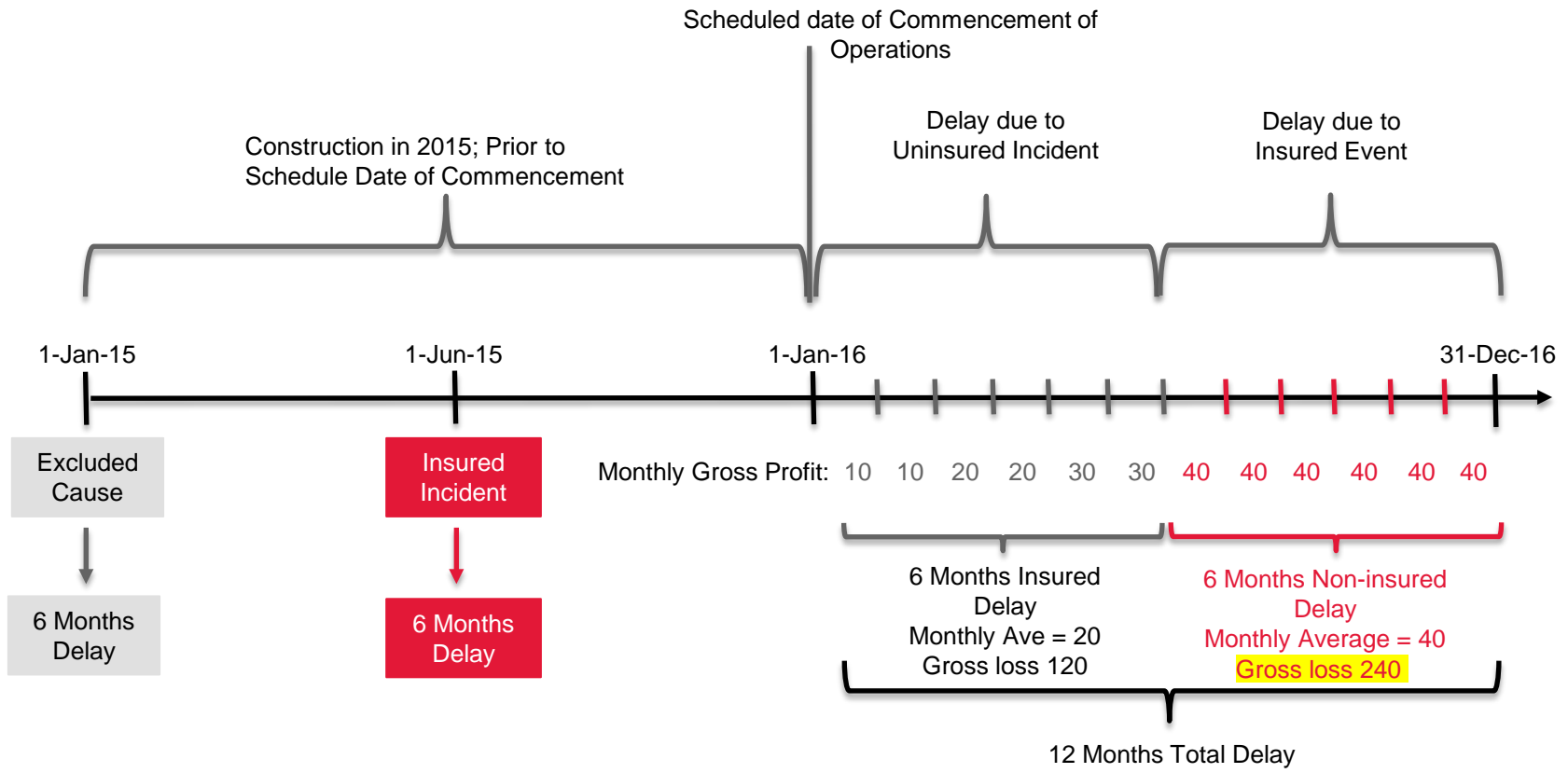


Deductible: 60 Days (in Aggregate)

Net Loss - **First** 6 Months of Delay Period:

- WP 60 Days: \$25 x 4 Months = \$100
- ADV 60 Days: \$20 x 4 Months = \$80

Scenario 2



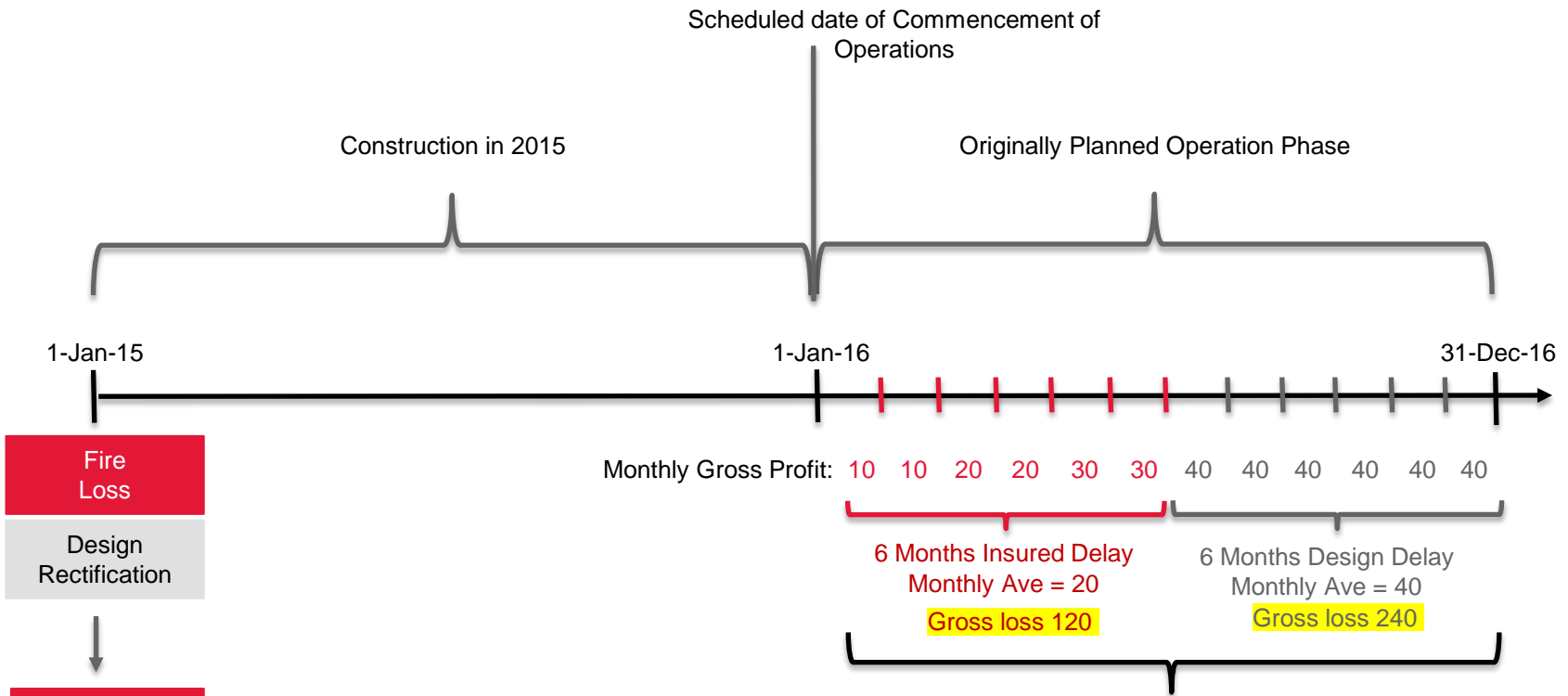
Deductible: 60 Days (in Aggregate)

Loss Calculation - **Last** 6 Months of Delay Period:

- WP 60 Days: \$40 x 4 Months = \$160
- ADV 60 Days: \$40 x 4 Months = \$160

60

Scenario 3



Fire Loss

Design Rectification

6 Months Fire Delay

6 Months Design Delay

12 Months Delay Total

Deductible: 60 Days (in Aggregate)

- Loss Calculation - 12 Months of Delay Period:
- 12-Months Average: \$30 x 4 Months = \$120
 - First 6 Months: \$20 x 4 Months = \$80
 - Last 6 Months: \$40 x 4 Months = \$160

- > Exclusion of LEG 1,2 or 3 excluded no problem for DSU assessment with flat / constant insured profit, but reality is different...

- > Which days / period to exclude?
 - Can policy wording help?
 - Can technical assessment help?
 - Or a matter to assess options on case by case basis?

