Introduction to the PDRI

Project Definition Rating Index
a Construction Industry Institute (CII) tool

SCOAR
May 3, 2012
Today’s Discussion

• Why
• What
• When
• Who
• How
• Now what
Thomas Joseph Rivas
1901-1987
Suddenly, a heated exchange took place between the king and the moat contractor.
Stop! There is a better way

• Stop breaking the rules (ignoring established best practices) and paying the price

• Use the PDRI to ensure robust Front End Planning or FEP

(a.k.a. Front End Loading or FEL, Pre-Project Planning)
Before mobilizing to the field, is having a “planning” measure (metric) for completeness important?
Why?

Research / case studies confirm:

- Improved team integration & morale (de-facto team building)
- 5 to 10% better on cost
- 5 to 15% better on schedule

Source: CII
DO YOU PREFER THAT I SPEND THE DAY PLANNING, WHICH DOESN'T LOOK LIKE WORK?

OR SHOULD I PLUNGE INTO MY PROJECT WITH AGGRESSIVE RANDOMNESS?

• 1996
• 1998
• 1998+
• 2000
• 2012
What is Project Definition Rating Index (PDRI)?

• A method for quantifying FEP completeness

• 3 PDRI versions: Industrial, Infrastructure, Building (commercial, general building)

• Number of elements, respectively: 70, 68, 64
PDRI for Industrial Projects

◆ Checklist for scoring project definition

◆ Composition
  • 3 sections
  • 15 categories
  • 70 elements

◆ Detailed element descriptions
PDRI Sections

I Basis of Project Decision (Business)

II Front End Definition (Engineering)

III Execution Approach (Construction Strategy)
G. PROCESS / MECHANICAL:  G8. Plot Plan

The plot plan will show the location of new work in relation to adjoining units. It should include items such as:

- Plant grid system with coordinates
- Unit limits
- Gates and fences
- Off-site facilities
- Tank farms
- Roads and access ways
- Rail facilities
- Green space
- Buildings
- Major pipe racks
- Laydown areas
- Construction / fabrication areas
When?

◆ Periodically during front end planning

◆ Frequency depends on project size and duration (minimum of two times)

◆ Requires about 3 to 4 hours
Project Life Cycle

- **FEASIBILITY**
- **FRONT END PLANNING**
- **DETAILED ENGINEERING & CONSTRUCTION**
- **TURNOVER, START-UP & OPERATIONS**

**Use PDRI Here**

- **FEP 1**
- **FEP 2**
- **FEP 3**

- **Startup / Operations / Evaluation**

- **Project Execution (Detailed Design & Construction)**

- **Final Authorization Decision**
Who is Involved?

◆ Stakeholders on FEP team

◆ Typical functions represented:
  - Owner
  - Operations
  - Maintenance (mechanical & E/I/C)
  - Contractor(s)
  - Engineering (design)
  - Process expert(s)
  - Supplier(s)

◆ Together
How does PDRI work?

Scoring

1000 Points

Nominal Target Rating

200 Points

Lower is better!
Definition Levels

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>Element</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Applicable</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Complete Definition</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Minor Deficiencies</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Some Deficiencies</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Major Deficiencies</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Zero Definition</td>
<td></td>
<td>5</td>
</tr>
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</table>

GOOD

POOR
Preferred Method

• Experienced facilitator (not a team member)

• Key functions represented on FEP team: Owner, operations, maintenance (mechanical & E/I/C), contractor(s), engineer (design), process, supplier(s)

• Reach collaborative consensus on each element

• Use as engagement and alignment tool

• Analyze and develop a path forward
How to use the Scoring

• Look for items that have a score of 4 or 5
  ● Analyze to evaluate potential risk
  ● Provide more definition or contingency

• Look at top ten elements
  ● Total weight is 384 points
  ● Invest time to get them right
  ● Insure alignment on these
The PDRI is Not...

◆ A “silver bullet”
◆ A 100% precision tool
◆ A guarantee of success
◆ A replacement for sound project management practices!
Common Problems

• Not conducted properly; PM & team unable to remain objective

• The numbers game

• The right people are not there (key functions not represented)

• Forced use

• Send around to poll members

• Use as basis of reward
Conclusions

The PDRI...

• Improves planning efforts
• Provides de-facto team building
• Saves money, time & frustration
• Proven
• Indicates potential risks
• Benefits owners and contractors
• Provides a structured industry standard
Discussion / Now What?

• Used in past?
• Currently using?
• Interested in learning more? (future half-day workshop)
Thank You!

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