



PDRI MATRS

Project Definition Rating Index Maturity and Accuracy Total Rating System

What's new with PDRI MATRS

PDRI MATRS (Maturity and Accuracy Total Rating System) is an extension of PDRI that assesses both the maturity and accuracy of FEED in large, complex industrial projects.

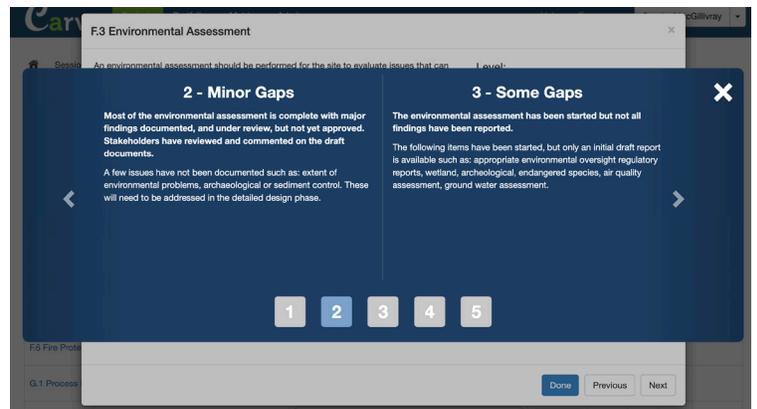
FEED is defined as “Front End Engineering Design”. It is a component of the front end planning process referred to as Detailed Scope. FEED consists of the Engineering documents, outputs and deliverables for the chosen scope of work.¹

In addition to the core benefits of PDRI assessments, PDRI MATRS will improve the degree of confidence in the level of maturity of FEED deliverables to serve as a basis of decision at the end of Detailed Scope (Phase 3). This typically represents 30% of engineering and design complete and is within the Class 3 cost estimate range (AACEi).

PDRI MATRS is best suited for large, complex industrial projects where total installed cost is greater than \$10M USD, construction duration is at least 9 months and the core team consists of more than 10 members.

Definition level criteria for all elements

One of the key resources developed as part of the PDRI MATRS tool was definition level criteria for all elements. This is a valuable asset for increased consistency in facilitation. The score guidance provides increased clarity on specifically what must be completed for each element and definition level.



Valency's Carve for PDRI assessment tool offers an enhanced facilitation process enabling facilitators to display a comparison of element details to support discussion and decision making during PDRI sessions.

Maturity Score

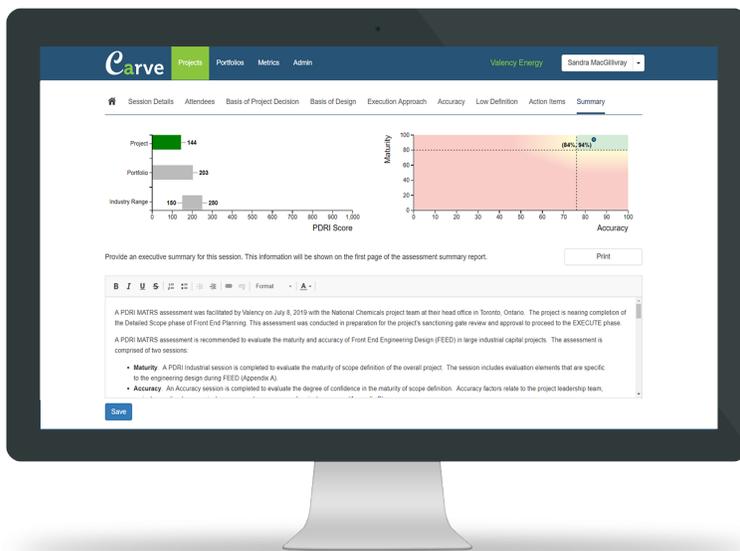
There are 46 of 70 elements that are directly related to FEED. They span all three sections of the PDRI Industrial template and maintain the same weightings and definition level values as the standard PDRI Industrial template. The normalization formula transforms the PDRI score of these elements into a Maturity percentage. A higher maturity score indicates better scope definition. By the end of Detailed Scope (Phase 3), the target score is 80% or higher.

Accuracy factors

The Accuracy Factors have been added as a new section. This set of factors involve the people, teams, processes and resources that create the environment where a mature FEED can be developed.

PDRI MATRS Accuracy Factors

There are 27 factors organized into four categories. Their weightings were determined based on CII research results and are displayed as a percentage. The target score at the end of Detailed Scope (Phase 3) is 76%. The higher the score, the better.



Carve offers an enhanced facilitation process with the new PDRI MATRS template. Above, a visual representation of both project PDRI score, accuracy and maturity rating.

1. Project Leadership Team

The project leadership team is composed of individuals who represent the interests of their respective stakeholders (e.g., owner, engineer, contractor) and are adept in the relevant subject matter, in order to contribute to the decision-making process that leads to favorable project outcomes.

Factors for review:

- 1a. Leadership team's previous experience planning, designing, and executing a project of similar size, scope, and/or location including FEED
- 1b. Stakeholders are appropriately represented on the project leadership team
- 1c. Project leadership is defined, effective, and accountable
- 1d. Leadership team and organizational culture foster trust, honesty, and shared values
- 1e. Project leadership team's attitude is able to adequately manage change
- 1f. Key personnel turnover (e.g., how long key personnel stay with the leadership team)

2. Project Execution Team

The project execution team is the group of individuals responsible for executing the project. This group may be comprised of several project team members including the project manager, team leads, key stakeholders, vendors, and/or customer representatives.

Factors for review:

- 2a. Technical capability and relevant training/certification of the execution team
- 2b. Contractor/engineer's team experience with the location, with similar projects, and with the FEED process

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Accuracy Factors

- 2c. Stakeholders are appropriately represented on the project team (e.g. contractor, operations and maintenance, key design leads, project manager, sponsor) and have a clear understanding of the project scope
- 2d. Level of involvement of design leads or managers in the engineering process
- 2e. Key personnel turnover including the stability/commitment of key personnel on the owner side through the FEED process
- 2f. Co-location of execution team members
- 2g. Team culture or history of the execution team working together

3. Project Management Process

The project management process is the availability and application of standardized tools and methods to adequately implement clear requirements for the FEED process.

Factors for review

- 3a. Communication within the team is open and effective; a communication plan with stakeholders is identified
- 3b. Organization implements and follows a front end planning process (e.g. phase gates, clear requirements), has a formal structure or process to prepare FEED, and implements planning tools (e.g., checklists, simulations, and work flow diagrams) that are used effectively.
- 3c. Clear priorities for cost, schedule, and required project features
- 3d. Significant input of construction knowledge into the

FEED process

- 3e. Adequate process for coordination between key disciplines
- 3f. Alignment of FEED process with available project information, including the existence of peer reviews and a standard procedure for updating FEED
- 3g. Documentation of information used in preparing FEED
- 3h. Review and acceptance of FEED by appropriate parties

4. Project Resources

Project resources are defined as the availability of key resources to support the FEED process, such as personnel, time, access, funding, and technology/software availability.

Factors for review:

- 4a. Commitment of key personnel on the project team
- 4b. Calendar time allowed for preparing FEED management tools available including technology/software
- 4c. Local knowledge (e.g., institutional memory, understanding of laws and regulations, understanding of site history) and access to visit and evaluate the site
- 4d. Quality and level of detailed engineering data available
- 4e. Amount of funding allocated to perform FEED
- 4f. Availability of standards and procedures (e.g., design standards, standard operating procedures, and guidelines)