



# ILC EDR KICKOFF MEETING - Asia

## PROPOSED WORK PACKAGES

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# EDR Work Packages

**EDR works will be carried out in two phases, viz.**

- **Phase 1: Improvement, development, updating of RDR design/cost through site selection**
- **Phase 2: All activities required for project execution in Host State after site selection to call for bid**

**Work Packages are a tool to organize Phase 1 of EDR**



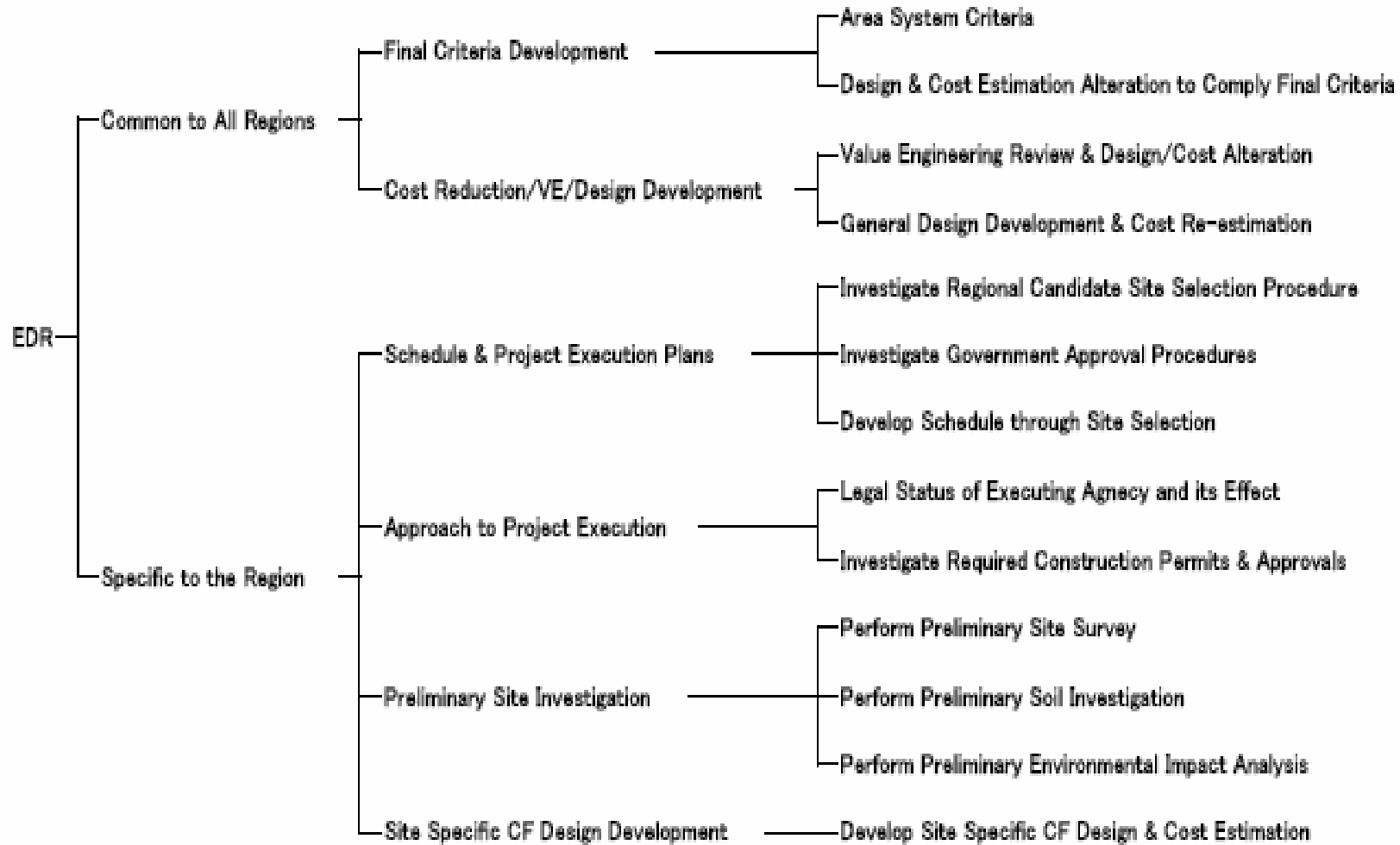
# EDR Work Packages

- **Grouping into two primary Work Packages is proposed**
  - 1. Common to All Regions**  
to be performed under international cooperation
  - 2. Specific to the Region**  
to be performed by each region individually



# EDR Work Packages

## WORK PACKAGE TREE DIAGRAM







# EDR Work Packages

## Description of items

- **Common to All Regions**  
is broken down into

### 1.1 Final Criteria Development

### 1.2 Cost Reduction/Value Engineering and General Design Development



# EDR Work Packages

## 1.1 Final Criteria Development

### 1.1.1 Area System Criteria

- Final area system criteria established
- Design requirements for technical systems to be revised in accordance with the final area system criteria

### 1.1.2 Design/Cost Alteration

Design and cost estimate to be altered in accordance with the revised design criteria/design requirement



# EDR Work Packages

## 1.2 Cost Reduction/VE and General Design Development

### 1.2.1 Cost Reduction & VE Review and Design/Cost Alteration

Perform design alternative study and V/E review to find the most optimum design

### 1.2.2 General Design Development

Added to America's items. Besides cost reduction and VE, a lot of design development in general is required





# EDR Work Packages

## 2. Specific to the Region

consists of following 4 activities. Some of activities are domestic one and may not be considered as GDE activity. However these activities are prerequisite to run for the host

**2.1 Schedule & Proj. Execution Plan**

**2.2 Approach to Project Execution**

**2.3 Site Investigation**

**2.4 Site Specific CF Design Developm't**



# EDR Work Packages

## 2.1 Schedule & Project Execution Plan

Under this title, the following non technical activities will be performed

### 2.1.1 Candidate Site Selection

Investigate procedures for regional candidate site selection

### 2.1.2 Government Approval Procedure

Investigate procedure to acquire government approval

### 2.1.3 Schedule

Based on above result, prepare schedule



# EDR Work Packages

## 2.2 Approach to Project Execution

Investigation of various procedures and methods and required for execution

### 2.2.1 Legal Status of Executing Agency and its Effect

This will affect applicable rules for bidding and contracting

### 2.2.2 Required Construction Permit and Approvals

Investigate required procedures

### 2.2.3 Construction Contract Method

Bid documents prepared accordingly



# EDR Work Packages

## 2.3 Site Investigation

2.3.1 Preliminary Site Survey

2.3.2 Preliminary Soil Investigation

2.3.3 Preliminary Environmental  
Impact Analysis

## 2.4 Site Specific CF Design Development

General design development on regional candidate site. Incorporation of final area system criteria and result of V/E review



## CFS EDR Planning – Work Packages Organization Table

### 1. Common to All Regions

#### 1.1 Final Criteria Development

##### 1.1.1 Area System Criteria

- 1.1.1.1 e<sup>-</sup>
- 1.1.1.2 e<sup>+</sup>
- 1.1.1.3 DR
- 1.1.1.4 RTML
- 1.1.1.5 ML
- 1.1.1.6 BDS
- 1.1.1.7 Experiment
- 1.1.1.8 General

##### 1.1.2 Design and Cost Alteration to Comply Final Criteria

- 1.1.2.1 Underground Facilities
- 1.1.2.2 Surface Structures
- 1.1.2.3 Site Development
- 1.1.2.4 Electric
- 1.1.2.5 Air Treatment
- 1.1.2.6 Piped Utilities
- 1.1.2.7 Process Water
- 1.1.2.8 Handling Equipment
- 1.1.2.9 Safety Equipmenty
- 1.1.2.10 Alignment



## 1.2 Cost Reduction/Value Engineering and General Design Development

### 1.2.1 Cost reduction Study & Value Engineering Review and Design/Cost Alteration

1.2.1.1 Underground Facilities

1.2.1.2 Surface Structures

1.2.1.3 Site Development

1.2.1.4 Electric

1.2.1.5 Air Treatment

1.2.1.6 Piped Utilities

1.2.1.7 Process Water

1.2.1.8 Handling Equipment

1.2.1.9 Safety Equipmenty

1.2.1.10 Alignment

### 1.2.2 General Design Development and Cost Re-estimation

1.2.2.1 Underground Facilities

1.2.2.2 Surface Structures

1.2.2.3 Site Development

1.2.2.4 Electric

1.2.2.5 Air Treatment

1.2.2.6 Piped Utilities

1.2.2.7 Process Water

1.2.2.8 Handling Equipment

1.2.2.9 Safety Equipmenty

1.2.2.10 Alignment



## **2. Specific to the Region – Asia**

### **2.1 Schedule and Project Execution Plans**

- 2.1.1 Investigate Regional Candidate Site Selection Procedures**
- 2.1.2 Investigate Government Approval Procedures**
- 2.1.3 Develop Schedule through Site Selection**

### **2.2 Approach to Project Execution**

- 2.2.1 Legal Status of Executing Agency and its Effect**
- 2.2.2 Investigate Required Construction Permits and Approvals**

### **2.3 Preliminary Site Investigation**

- 2.3.1 Perform Preliminary Site Survey**
- 2.3.2 Perform Preliminary Soil Investigation**
- 2.3.3 Perform Preliminary Environmental Impact Analysis**

### **2.4 Site Specific CF Design Development**

- 2.4.1 Design and Cost Alteration to Comply Final Criteria**
  - 2.4.1.1 Underground Facilities**
  - 2.4.1.2 Surface Structures**
  - 2.4.1.3 Site Development**
  - 2.4.1.4 Electric**
  - 2.4.1.5 Air Treatment**
  - 2.4.1.6 Piped Utilities**
  - 2.4.1.7 Process Water**
  - 2.4.1.8 Handling Equipment**
  - 2.4.1.9 Safety Equipmenty**
  - 2.4.1.10 Alignment**



2.4.2 Design and Cost Alteration in Terms of Value Engineering

2.4.2.1 Underground Facilities

2.4.2.2 Surface Structures

2.4.2.3 Site Development

2.4.2.4 Electric

2.4.2.5 Air Treatment

2.4.2.6 Piped Utilities

2.4.2.7 Process Water

2.4.2.8 Handling Equipment

2.4.2.9 Safety Equipmenty

2.4.2.10 Alignment

2.4.3 General Design Development and Cost Re-estimation

2.4.3.1 Underground Facilities

2.4.3.2 Surface Structures

2.4.3.3 Site Development

2.4.3.4 Electric

2.4.3.5 Air Treatment

2.4.3.6 Piped Utilities

2.4.3.7 Process Water

2.4.3.8 Handling Equipment

2.4.3.9 Safety Equipmenty

2.4.3.10 Alignment

2.4.3.11 Others (ex. Off-site Works)





# EDR Work Packages

ILC EDR WORK PACKAGES MATRIX – ASIAN REGION

Common to all Regions		1	e-	e+	DR	RTML	ML	BDS	Exp'mt	General			
		Finalize Area System Criteria									-Radiation shielding -Vibration requirement -Surface facilities requirement		
		Sub Work Package	Under-ground facilities	Surface structures	Site development	Electric	Air treatment	Piped utilities	Process water	Handling equipment	Safety	Alignment	Others
Site Specificities	1'	-Cost Reduction and Value Engineering Study -General Design Development	-Shallow tunnel -C/C -Tunnel cost -Tunnel diameter -Shaft requirements -Halls & Caverns	○		○	○	○	○	○	○	○	
	2	Schedule & Project Execution Plans											-Investigate procedure for selecting regional candidate site -Investigate governm't approval procedures
	3	Approach to Project Execution											-Legal status of executing agency and its effect -Investigate required construction permits and approvals -Construction contract method
	4	Site Investigation											-Preliminary site survey -Preliminary soil investigation -Preliminary environ-
	5	Site Specific CF Design Development	-Access Tunnel & Hall design -Cost re-estimate	-Central Campus layout -Cost re-estimate	-Cost re-estimate	-Analyze power transforming system -Cost re-estimate	-Develop design & cost re-estimate	-Develop design & cost re-estimate	-Develop design & cost re-estimate	-Cost re-estimate		Re-study	-Off-site works



# EDR WORK PACKAGES

IN CLOSING,

- Work Packages we proposed is tentative and we hope to establish final WP useful and practical to carry out EDR through discussion among three regions.