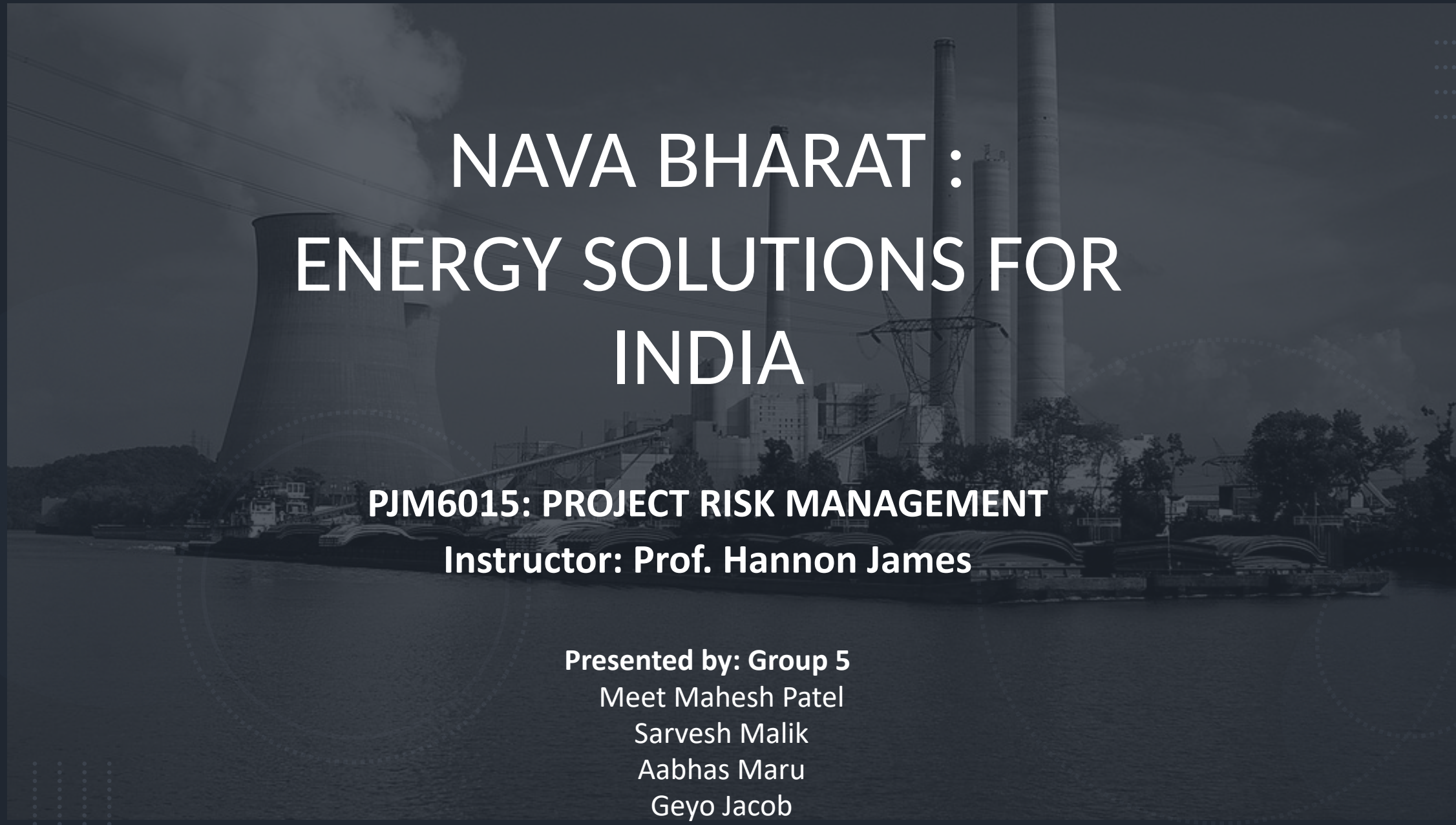

NAVA BHARAT : ENERGY SOLUTIONS FOR INDIA

PJM6015: PROJECT RISK MANAGEMENT

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Presented by: Group 5

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Company background

- **1975** - Commenced production of Ferro silicon at Paloncha, AP
- **1980** - Ventured into production of sugar and its by-products
- **1989** - Commenced production of manganese and chrome alloys
- **1997** - Diversified into power generation by catering to captive requirements and selling surplus power
- **2004** - Spread its global footprints through Nava Bharat (Singapore) Pte. Limited, a wholly owned subsidiary of NBVL
- **2006** - Renamed as Nava Bharat Ventures Limited to reflect its varied business portfolio
- **2010** - Acquired a large coal mining Company in Zambia (Maamba Collieries Limited)

Project Sponsor organization Background

- Nava Bharat Ferro Analysis Limited was founded in 1972.
- Nava Bharat Ventures Limited was rebranded in July 2006.
- Kinnera Power Co. Ltd., Brahmani Infratech Pvt. Ltd., Nava Bharat Realty Ltd., and Nava Bharat (Singapore) Pvt. Ltd. were all subsidiaries of NBVL.
- The cash flow waterfall technique protects the project's stakeholder benefits.
- The project's principal stakeholder is Development Bank Limited.

Project background

Coal-fired technologies is being used.

To reduce damage to the environment, low-grade coal was used, and the maximum noise level was set at 85 decibels.

Both power stations would require around 100 hectares of land to construct.

This factory would require a total of 1.3 million tons of coal per year.

Water consumption is expected to be 5.26 cubic feet per second on an annual basis.

The project's majority of sites are on undeveloped land.

Benefits to Sponsor Organization

- EXPOSURE
- RETURN ON INVESTMENT
- CREATING LEADS
- OBTAIN SALES TARGETS
- INSIGHTS FROM THE AUDIENCE
- BUSINESS PARTNERSHIPS
- CREDIBILITY

Project objectives

- Nava Bharat Energy India Limited (NBEIL) intends to construct two 150MW coal-fired electricity units in India (Paloncha, Khammam, and Dharmavaram, East Godavari, Andhra Pradesh) over the next 2.5 years at a cost of Rs.13.86 billion (30 months)
- To encourage for using coal technologies in order to reduce pollution.
- Take appropriate climate precautions and encourage waste disposal in accordance with government guidelines.
- 300 people are employed directly, and 700 people are employed indirectly.
- Environmental Pollution Control Water Supply Management
- Noise level control of 85 dB at 1.5-meter distance
- Carbon dioxide emissions

Major deliverables and sub-deliverables

(levels 2 and 3)

WBS	Phases	Major deliverables	Sub-deliverables
1	Initiation	1.1 Identification of requirements	1.1.1 Business case
		1.2 Definition of objectives	1.2 Project charter
2	Planning	2.1 Scope management	2.1.1 Definition of scope 2.1.2 Preparation of scope statement
		2.2 Cost management	2.2.1 Estimation of cost 2.2.2 Determination of budget
		2.3 Contract management	2.3.1 Contract implementation 2.3.2 Development of procurement plan 2.3.3 Authorization to proceed
		2.4 Licensing	2.4.1 Application for licenses 2.4.2 Acquisition of licenses

Major deliverables and sub-deliverables

(levels 2 and 3)

WBS	Phases	Major deliverables	Sub-deliverables
		2.5 Communication management	2.5.1 Development of communication channels 2.5.2 Stakeholder communication
2	Planning	2.6 Risk management	2.6.1 Identification of risks 2.6.2 Development of risk register
		2.7 Security management	2.7.1 Establishment of safety standards 2.7.2 Enforcement of safety standards
3	Construction	3.1 Boilers 3.2 Turbines 3.3 Steam generators 3.4 Cooling towers 3.5 Air condensers 3.6 Transformers	

Major deliverables and sub-deliverables

(levels 2 and 3)

WBS	Phases	Major deliverables	Sub-deliverables
4	Monitor and Control	4.1 Inspection 4.2 Manufacturing surveillance	4.1.1 Inspection of construction areas 4.1.2 Construction and inspection tests
		4.3 Progress measurement	4.3.1 Progress report
		4.4 Change control	4.4.1 Specification of change request protocol 4.4.2 Change authorization 4.4.3 Enforcement of change
5	Closing	5.1 Testing	5.1.1 Conduction of additional tests
		5.2 Transition operation	5.2.1 Operation transition confirmation
		5.3 Lessons learned	5.3.1 Lessons learned report

Summary budget

The electricity projects are estimated to spend a total of $13.8 billion.

The project was to be financed using a 2.33:1 debt-to-equity ratio.

Internal factors would furnish the full equity finance of $4.16 billion.

A syndicate of banks would provide the requested term loan of $9.7 billion.

- Summary budget – Cost Breakdown (in ₹ Millions)

Cost Component/ Projects	Paloncha	Dharmavaram	Total
Hard Costs			
Land and civil works	760	950	1,710
Plant and machinery	4,830	5080	9,900
Soft Costs			
Preliiminary and pre-operative expenses	80	80	150
Contingent expenses	120	130	240
Interest during construction	770	840	1,600
Margin money for working capital	160	170	320
Total Cost of Projects	6,880	7,250	13,920

Summary schedule

The summary schedule covers the most important milestones and deliverables, but not all project tasks.

Beginning on October 1, 2009, and ending on April 1, 2012, the project will be completed.

The financial closing establishes the start date (tentative date of financial closure is estimated on October 1, 2009)

Time frame: 2.5 years

Acceptance criteria

- A fully functional coal-fired thermal power station of 150 megawatts each is built in Paloncha, Khammam District and Dharmavaram, East Godavari District, Andhra Pradesh.
- Cost of the project should not exceed 13.86 billion INR.
- Energy supply is increased by 30%.
  - Prior to the start of the project, land must be gathered and assigned.
  - Throughout the project, the circulation fluid bed combust technique must be verified and implemented.
  - During the project's execution, a waste management plan should be in place.
  - With its client, the project might have had a long-term power purchase agreement.

References

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Thank you