

# Limitations on Transportation of Project and Odd Dimension Cargo

- Limited bridge capacities: National Highway Bridges are designed for class A loading only (70 MT tank load)
- Limitation of vertical clearance : Electrified railway crossings provide only 4.7 m of vertical clearance. Flyovers bridges provide 5.8m to 6m
- Limitation of carriage width: Majority two of lane highways are only 7.5m wide. Transporting large diameter equipments (specially for refineries, petrochemical plants) blocks and disrupts traffic
- Heavy lift aircraft can carry a maximum payload of 140 tons and require very long runways which are not found in remote areas
- Large projects in remote inland areas need extensive logistical surveys and planning in the DPR phase itself to indentify and overcome bottlenecks
- Waterways is the often the only medium which can overcome these bottlenecks



# Methodology of Project Cargo Transport Using Waterways

- Inland waterways are used to move cargo to variety of locations in India
  - NW 1 (Ganga) is used to take cargo from Kolkata to sites in Northern and Central India
  - NW 2 (Bhramaputra) is used to take cargo from Kolkata to sites in North East (Assam, Meghalaya, Arunachal Pradesh, Tripura etc). This route goes via Bangladesh
- Very few inland sites are situated on banks of waterways and as such part of the distance is covered by road
- Roll on Roll off (Ro-Ro) jetty location is determined by logistics service provider and also built by them
- Minimum draught required for the barge is made available by IWAI
- Loading of the cargo on to the barge is done by either cranes or Ro-Ro mechanism





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#### Plug & Runner unit on Barge



Road transportation of Runner unit

### Reactors loaded on Barge at Kolkata



#### Ro/Ro being done at Jogighopa

#### Jetty construction for Ro/Ro at Jogighopa



Road transportation of reactor

#### View of Barge showing Loading & Ro Ro Arrangement



Moving made simple

#### View of Barge showing Loading & Ro Ro Arrangement





### Learning from Subansiri and BRPL Projects

- Waterways can be used effectively for transportation of ODC/Heavy Lift cargo using major navigable rivers. Following points need to be taken care of for more usage of water ways
- The draught availability should be known in the channel for the Ro/Ro season
- Draught Availability should be maintained by IWAI throughout the year
- Probable Ro/Ro Jetty locations should be identified IWAI on major river routes considering the draught available and connectivity with highway
- Permanent jetties can be developed at these sites
- Single window information is necessary regarding navigability, draught availability and connectivity.
- Linkage of other rivers to main rivers should be worked out.



## Thank You



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