

# Case Study

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## Transport Equipment for a new Vegetable Oil Refinery

### Brief Description of Project Scope

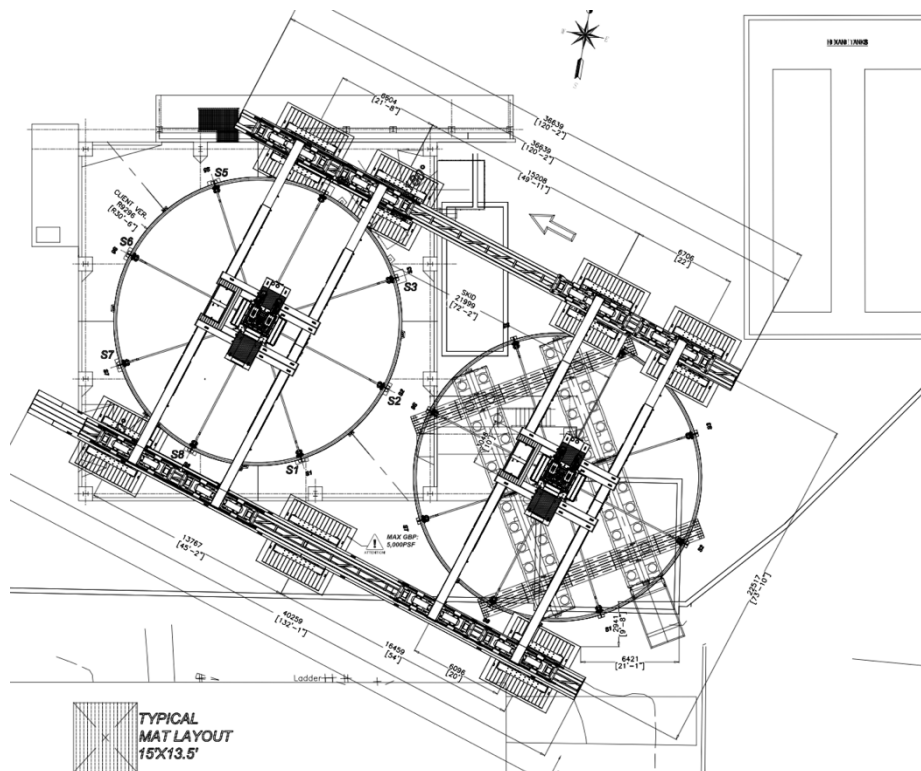
In 2016 our clients asked us to assist with a transport study for a complete set of equipment to expand an existing vegetable oil refinery in the South of the United States of America, including a extraction unit of sixteen diameter and weighing more than five hundred metric tonnes. The majority of the equipment would be coming from several locations in China and was to be moved to the factory site location in the USA.



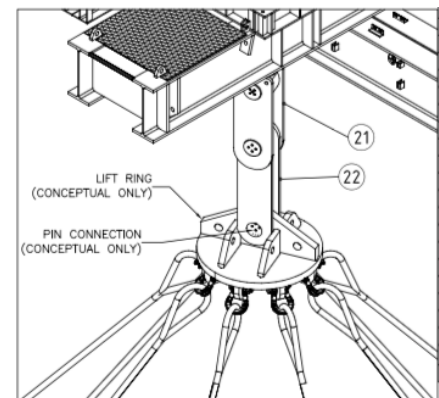
Initially, we assisted them with a feasibility study for the movement to the site and checked the following items:

- Project site and surrounding environment
- Physical constraints
- Security risks and regulatory requirements
- Assessment of possible routes
- Identify obstructions, height clearance and restrictions of specific routes
- Identify equipment (quality and availability), local road weight and permitted restrictions
- Permits
- Time Requirements

After a thorough check, we identified the following main issues related to the transport in China and the delivery to site in the USA.

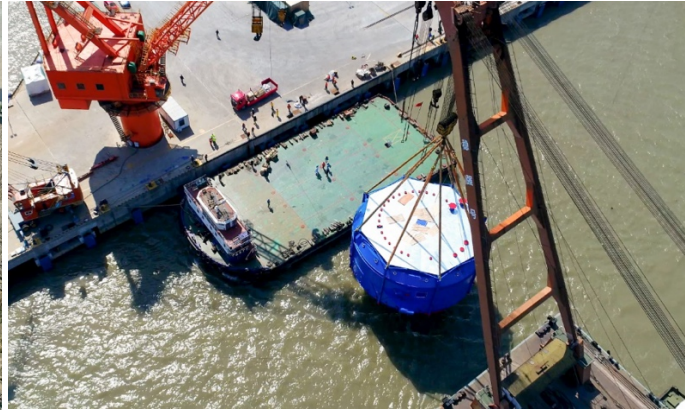


- The workshops fabricating the bigger units should assemble the final elements in a location near/in port, as the dimensions do not allow for transport on the road.
- The lifting would require a specifically designed lifting frame to allow for a lift at proper angles.
- The route from the discharge port to the final site was only possible via inland waterways and a survey had to be done on the aircraft allowance of all bridges along the route.
- The discharge from barge to site was only possible by ro-ro method over sets of extended ramps from barge to shore
- The discharge on foundation was limited in space for crane movements so a specific design for the lift was to be made.

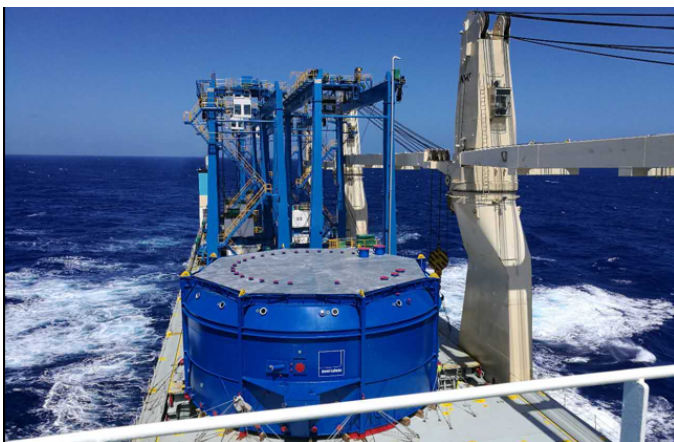




After working with the client on the above restrictions, we moved the biggest unit reactor from the designated building location in port to alongside the quay, where it was lifted to barge for onwards transport by seagoing vessel



Once loaded and secured under the watchful eye of our operation crew and port captain, the cargoes including the reactor started their journey over the pacific ocean and through the Panama Canal.





About one month after the departure from China, the units were discharged to truck and barge (last only for the bigger unit) and moved to site. The trucks moved by road straight to the site, but the unit reactor followed the inland waterways surveyed in the preceeding months before arriving at the berth selected for discharge.



Upon arrival at site, the trucks were discharged straight to the holding area and the barge carrying the main unit was prepared for the rolling operation by placing the ramps to shore. After all was prepared, barge was balasted correctly, the unit was rolled off by way of two units SPMT.





After 9 months of planning, technical calculations, meetings with police and city councils, we delivered the project from the interior of China to Site in the South of the United States of America in three ships over a period of two months.