



Goldhofer

Report No. 74

Transport of Gas Turbine from Kelheim to Irsching



Moving the world's largest gas turbine to Irsching

Route: From the goods harbour Kelheim/Saal to Irsching, 40 km

Payload: The world's largest gas turbine of Siemens

Output: 340 MW

Width 5,95 m

Height 5,0 m

Length 14,0 m

Weight 496 tons

Trailers used: 20-axle Goldhofer heavy-duty combination with a self-propelled transporter type PST/ST (1+1/2)

Combination: Length 53,10 m

Height 6,95 m

Weight 742 tons

Prime movers: Front tractor MAN 600 hp

Rear push tractor MAN 600 hp

Hauling company: TRANS ADM

P. Adams

Saint Vith / Belgium

Moving the world's largest gas turbine to Irsching

Moving the largest and the most powerful gas turbine from Berlin to Irsching in Bavaria was a real logistic masterstroke.

The transport group „Multilift“ was entrusted to transport all parts destined for the power plant in Irsching. However, the precondition for this was that the heaviest part - a gas turbine measuring nearly 6 m in width - would have sufficient supporting surface and a certain axle load would not be exceeded. The permitted route, however, was too narrow to combine two heavy-duty modules side by side. Fortunately, P. ADAMS, a member of the Multilift-Group, disposes of so-called split modules of Goldhofer. The advantage of these split modules is that they can be splitted in the longitudinal direction resulting in a platform with 3 pendular axles, side by side, and a vehicle width of 4.900 mm.

This enabled to meet all requirements of the permit without any problems.

To cover the first section of the transport route, the gas turbine was carried by a push barge train up to the goods harbour of Kelheim/Saal. Here, the turbine of approximately 500 tons was reloaded onto the 30-axle heavy-duty modular system which was already provided.



Powerful! The new gas turbine sets standards in output, efficiency factor and emission values. Its output of 340 MW should be upgraded to 530 MW at a later date, which would be sufficient to supply power to the population of a town like Hamburg. Moreover, the CO₂output will decrease by about 40.000 tons per year.

Since no federal roads or highways could be used due to the total combination weight of 750 tons and the overall height of 7 m, the transport wound its way through country roads along the Danube. The first section was covered during the night as a long time-slot enabling the convoy to pass a railroad crossing was only available at that time. For this, it was necessary to cut all overhead lines.



The first section was managed. Now, the convoy is waiting to continue.

The next section of transport was carried out during the day. Already on the first day, one of the most difficult sections, a driving uphill, approximately 5,5 km long, should be covered. Very characteristic was the 1,5 km section with a gradient of 8-9%. The transportation team of ADAMS therefore decided to integrate a self-propelled heavy-duty module with PowerPack into the 30-axle combination as a back-up drive for the two 600 hp tractors to pull and to push. Since the combination was only driving at walking speed due to its weight and 6 m width, the self-propelled transporter could also go with the combination at idle speed on even terrain. The speed however should not exceed 15 km/h such as not to cause damage to the wheel gears of the self-propelled transporter.



Goldhofer offers two types of self-propelled transporters, one with normal steering and one with electronic multi-way steering. Both self-propelled transporters can be combined with the common and proven modules. The PowerPack has an output of 430 – 490 hp, depending on the engine power, and it replaces 3 to 4 prime movers.

Permanently escorted by a number of vehicles such as police convoy and other escort vehicles, hydraulic lift, etc, the convoy rolled through the streets of Kehlheim. Many sightseers and photographers bordered the road to witness the fascination “heavy transport” very closely.



All the time, working platforms were provided to lift overhead lines and thus clear the way for the combination, 7 m in height.

Complete sections had to be blocked and the traffic deviated. A foregoing troop of Alborn Co. was constantly overbuilding and securing pedestrian refuge islands and green spaces with steel plates. To avoid damage to roads, it was repeatedly necessary to cover risky places with steel plates.



Every problem spot was repaired shortly before the transport arrived. Bridges were reinforced using additional steel members. Traffic lights were removed and then reinstalled.



The extreme steering angle 60°, as well as the hydraulic axle compensation of the proven Goldhofer pendular axles changed every roundabout into a normal driving route.



A number of pedestrians concentrated along the roads to admire the enormous transport and wondered about the manoeuvrability of the 53 m long combination, which was able to take every tight turn in spite of its total weight of 750 tons.



The Walhalla still looks down upon the transport, but soon it will be at the same level.





The transport team of TRANS-ADM - assisted by two Goldhofer service engineers - looked forward to the imminent gradient in a relaxed way.

As light showers came, first worries came that the slippery steel plates would not offer good traction anymore. The transport team therefore already decided to add the self-propelled transporter to the convoy in the first uphill section. But the all-clear could be given very quickly.



The 120 wheels rolled over the wet steel plates without any problem. The hydraulic axle compensation of +/- 300 mm quickly coped with every unevenness.



At the foot of the upgrade, the gas turbine had to stay and wait. The transformer was the first to take the „mountain stage“. With two tractors and one push tractor, the 20-axle combination propelled itself upward. After the section was released, the gas turbine also took the mountain stage.



*The mountain stage can start.
Approx. 1630 horsepower wait for operation.*

The 750-ton combination slowly moved uphill on the 8-9% slope. High-risk street sections were secured by steel plates.



The self-propelled transporter with its 430 hp - as additional aid - moved unremittingly and reliably uphill with its load.



Many times, the street was very narrow for the 5 m wide transporter, and the road shoulders and embankments were very close to the convoy.



The self-propelled transporter worked reliably and pushed the 700 ton combination - sometimes aided by a 600 hp tractor when going uphill. Even on the steel plates, the combination found enough traction and wound itself uphill meter by metre.



Finished! The team managed the uphill driving without any problems within the shortest time.

Arrived at the top, the convoy continued its way towards Ingolstadt. All of the next transport sections were covered during the day - in due time. The convoy reached the power station in Irsching, near Ingolstadt, within 4 days.