



ANDRITZ GROUP

# COMPACT AXIAL TURBINE

EVOLUTION DER SAXOFONTURBINE - BETONCAT

OCT 2023 – M. MUHRY / HC806

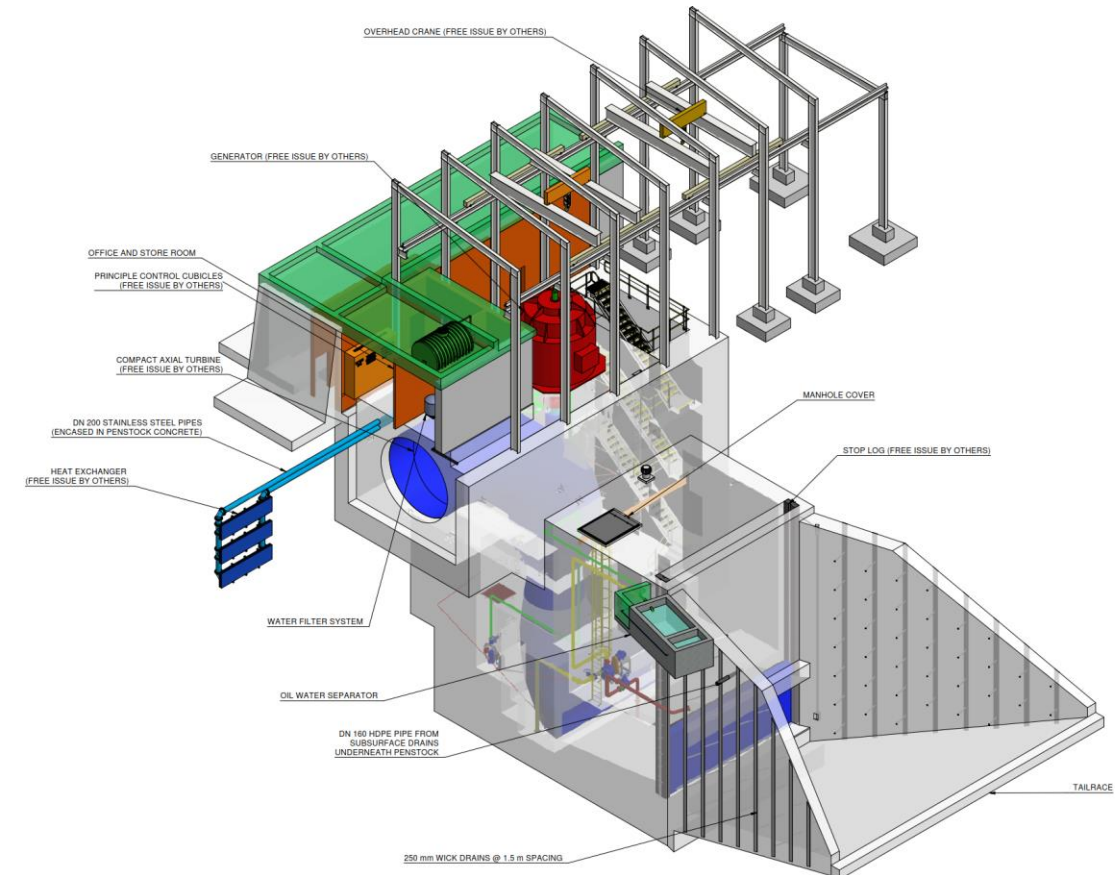
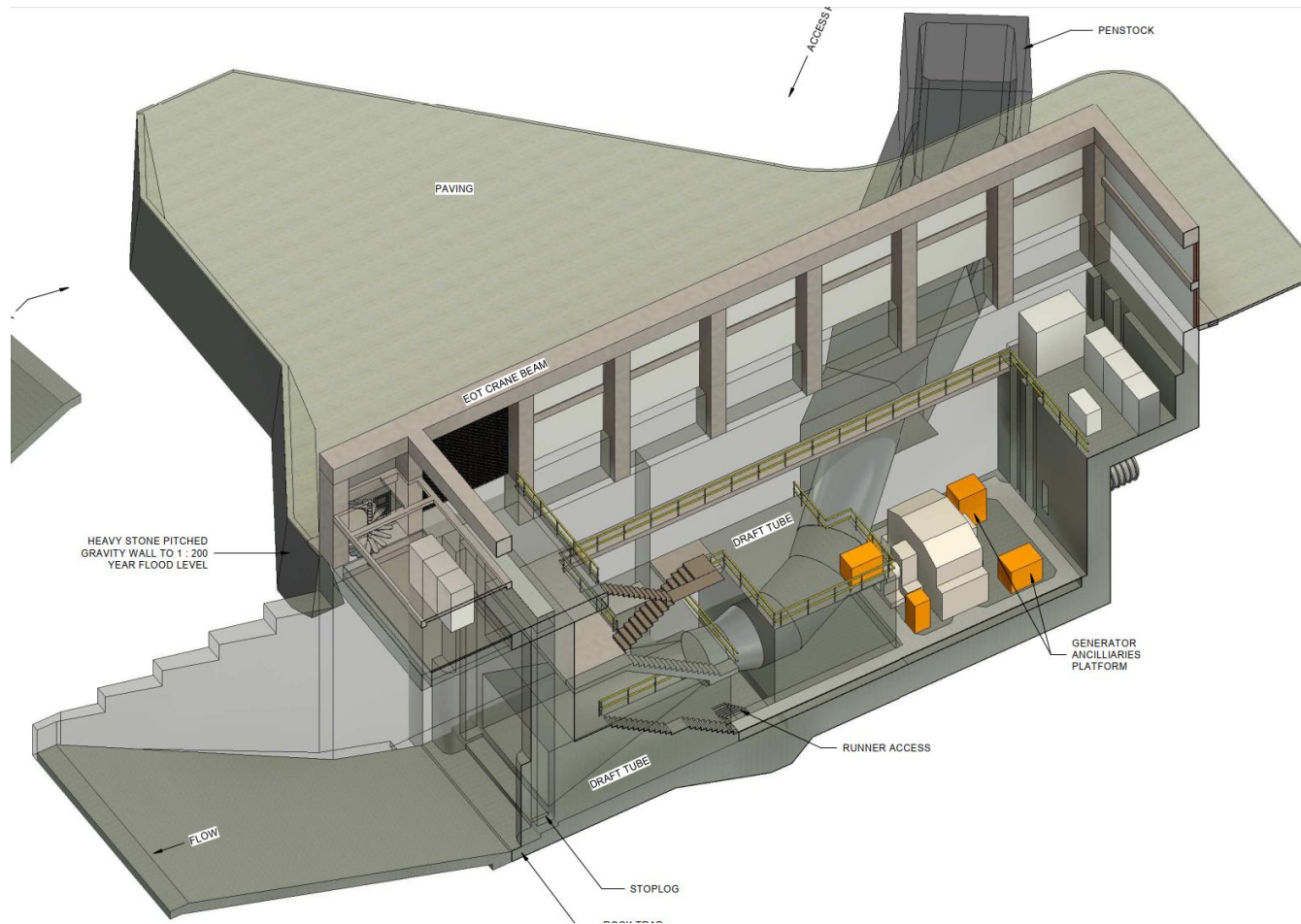
**ANDRITZ**

ENGINEERED SUCCESS

# COMPACT AXIAL TURBINE



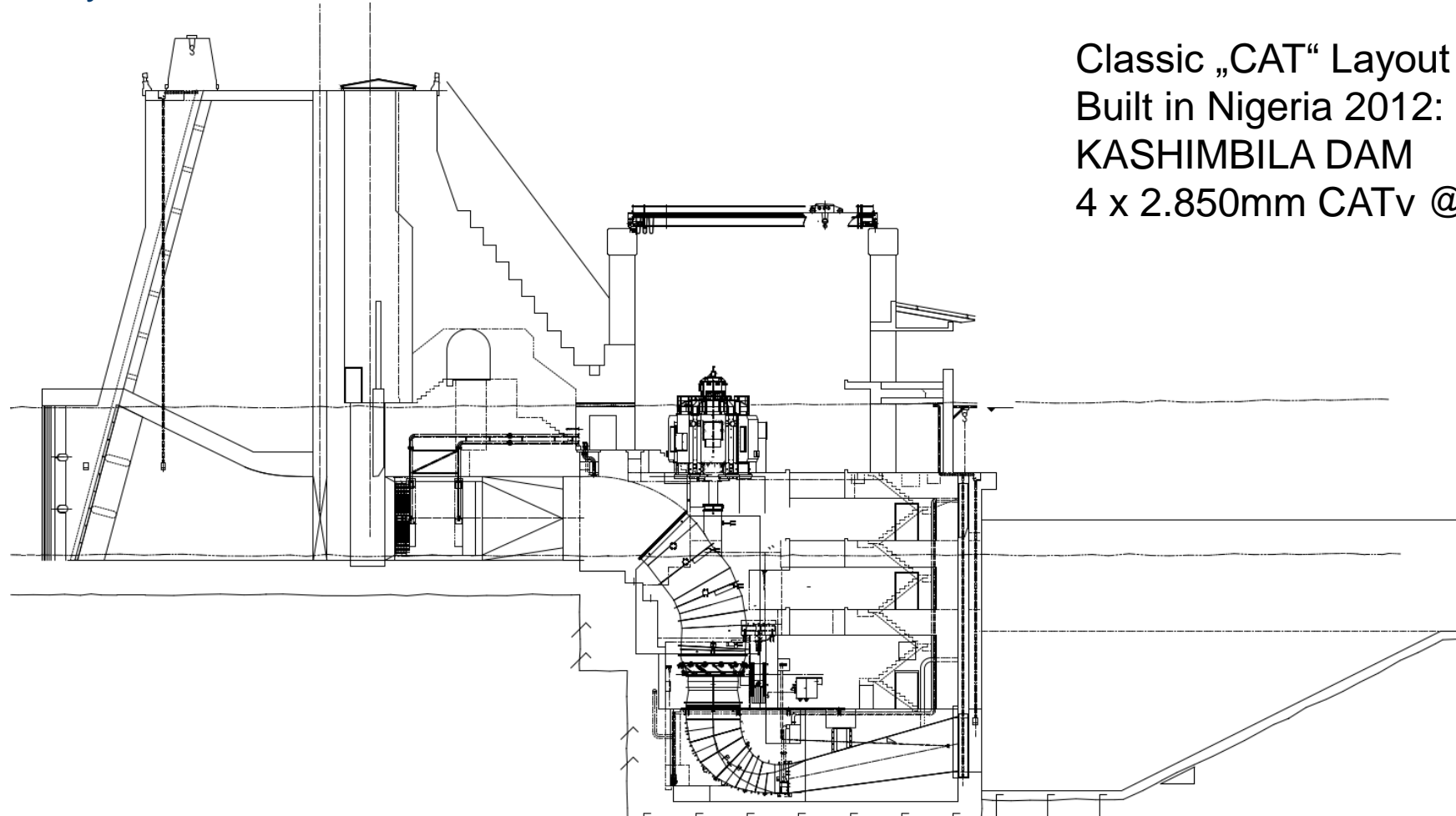
Powerhouse layout, based on Standard CAT



# COMPACT AXIAL TURBINE



Powerhouse layout, based on Standard CAT



Classic „CAT“ Layout  
Built in Nigeria 2012:  
KASHIMBILA DAM  
4 x 2.850mm CATv @ 12,5MW each

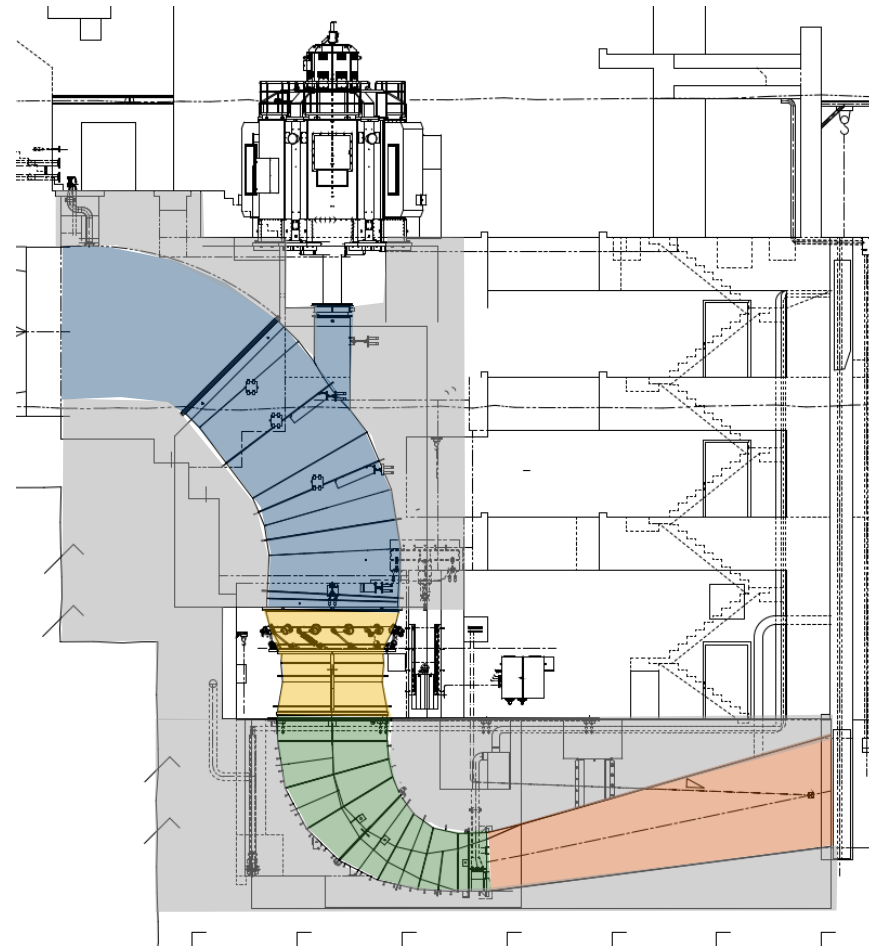
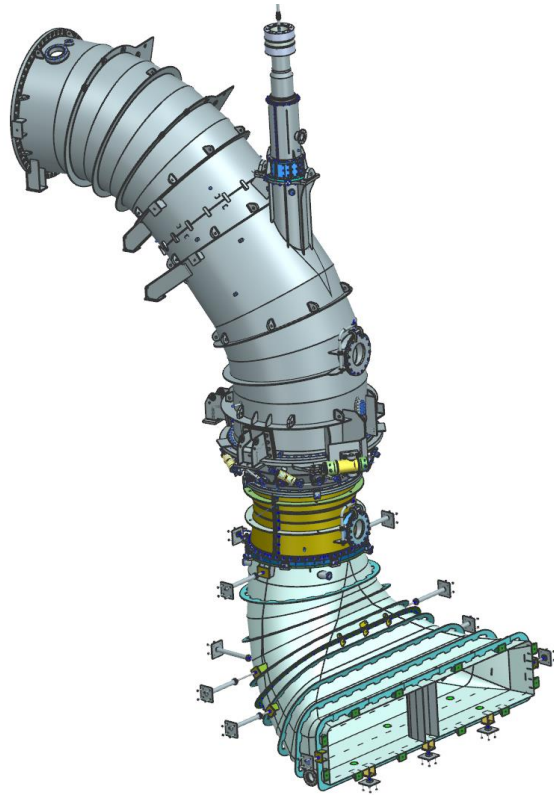
66m



# COMPACT AXIAL TURBINE



Turbine general layout, based on Standard CAT



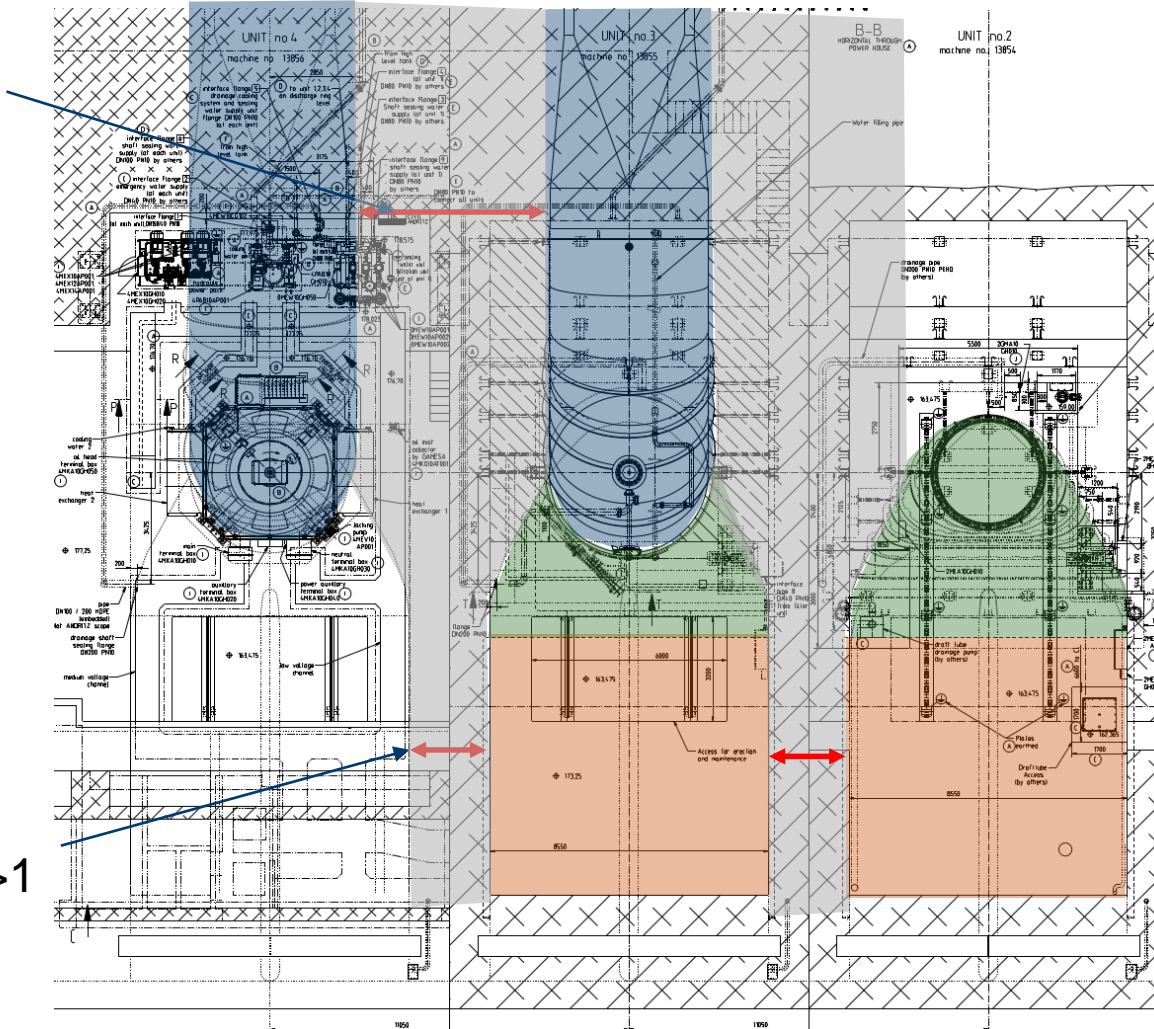
- Concrete structure
- Intake steel liner
- Turbine main components
- Draft tube elbow steel liner
- Draft tube exit section

# COMPACT AXIAL TURBINE



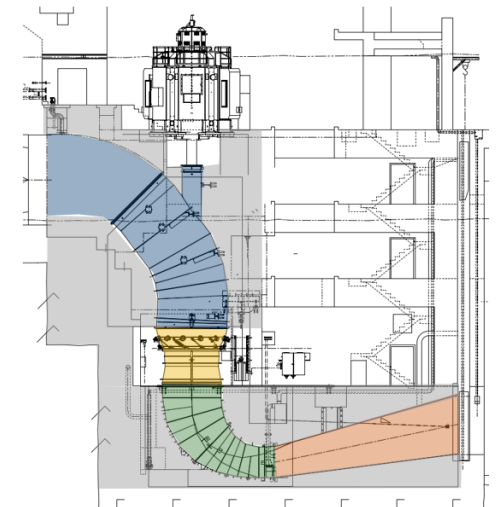
Powerhouse layout, based on Standard CAT

Concrete wall width for intake if Unit no >1



- Concrete structure
- Intake steel liner
- Turbine main components
- Draft tube elbow steel liner
- Draft tube exit section

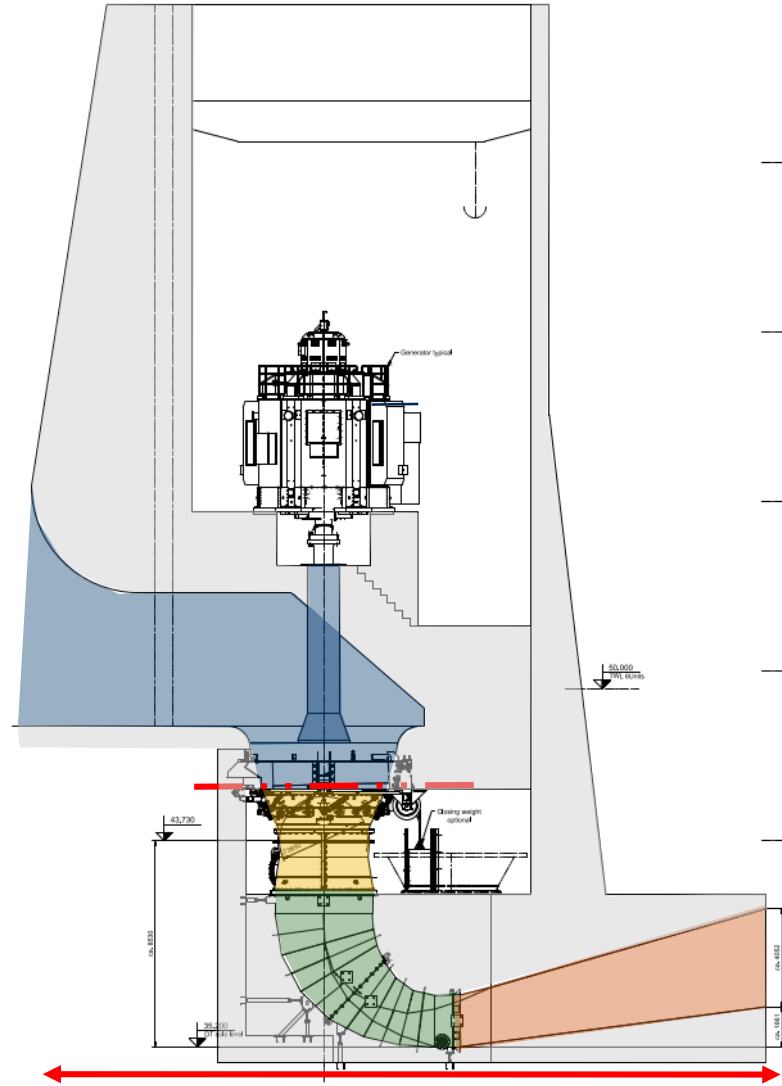
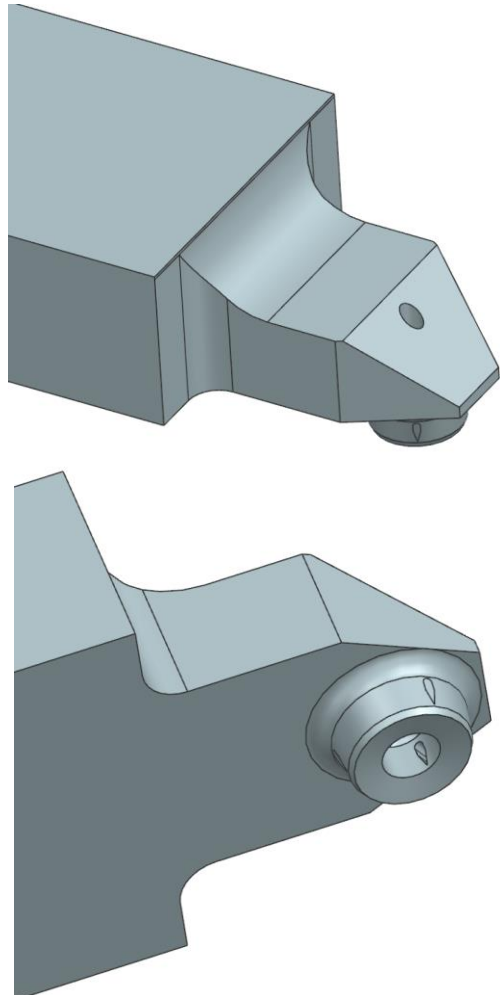
Concrete for draft tube;  
Defines unit distance if n>1



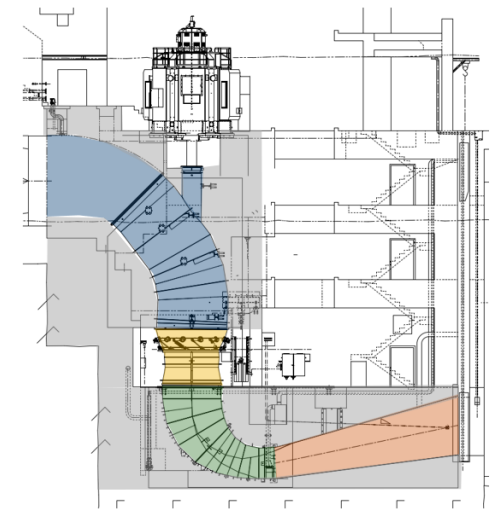
# COMPACT AXIAL TURBINE



Turbine general layout, based on ShoeBox



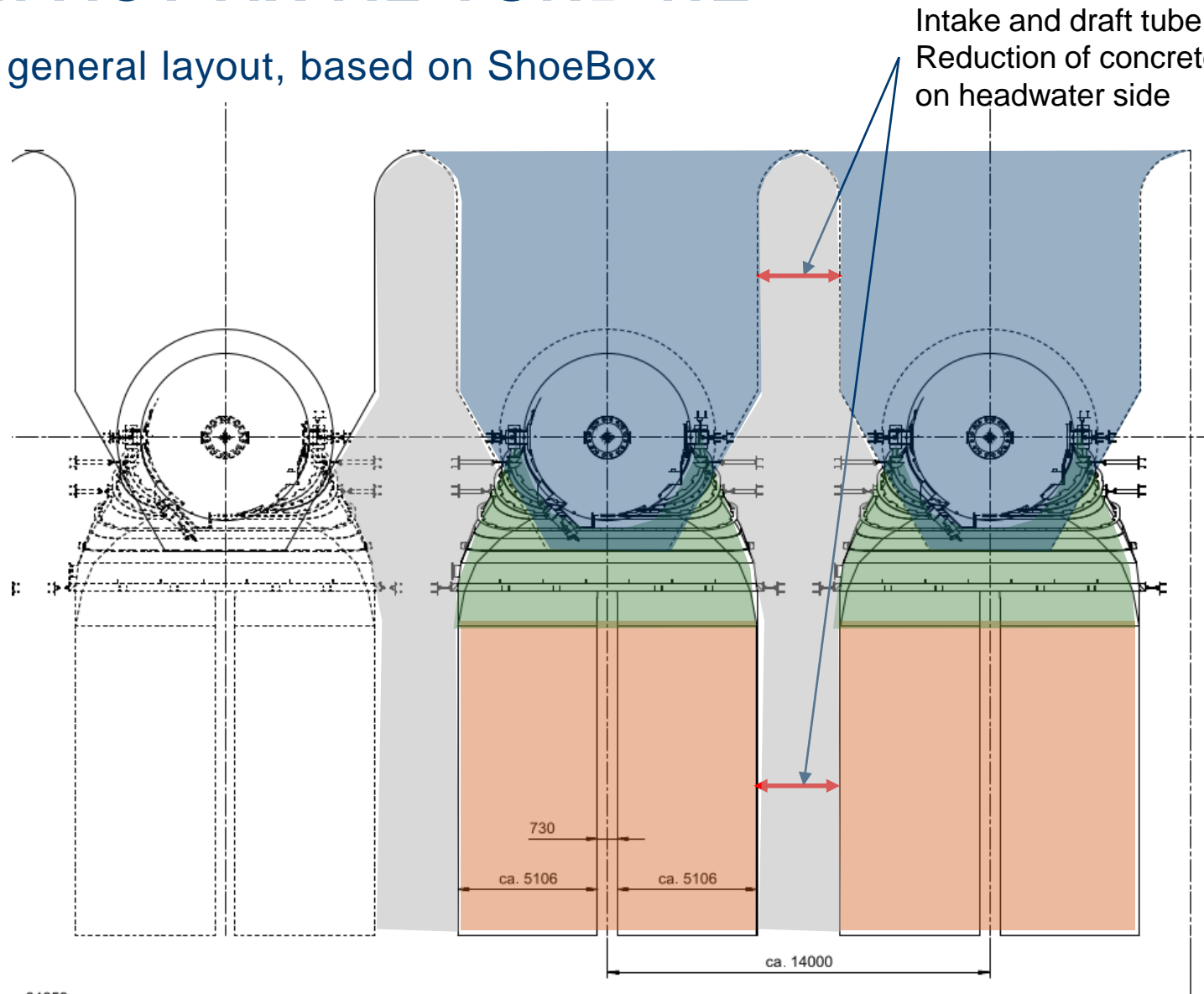
- Concrete structure
- Intake steel liner
- Turbine main components
- Draft tube elbow steel liner
- Draft tube exit section



# COMPACT AXIAL TURBINE

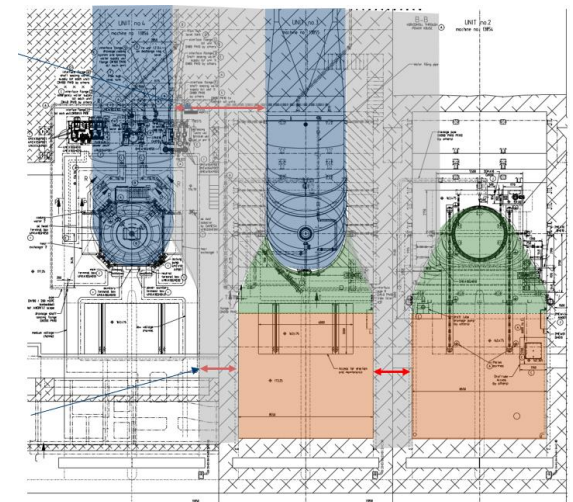


Turbine general layout, based on ShoeBox



Intake and draft tube width  
Reduction of concrete structure  
on headwater side

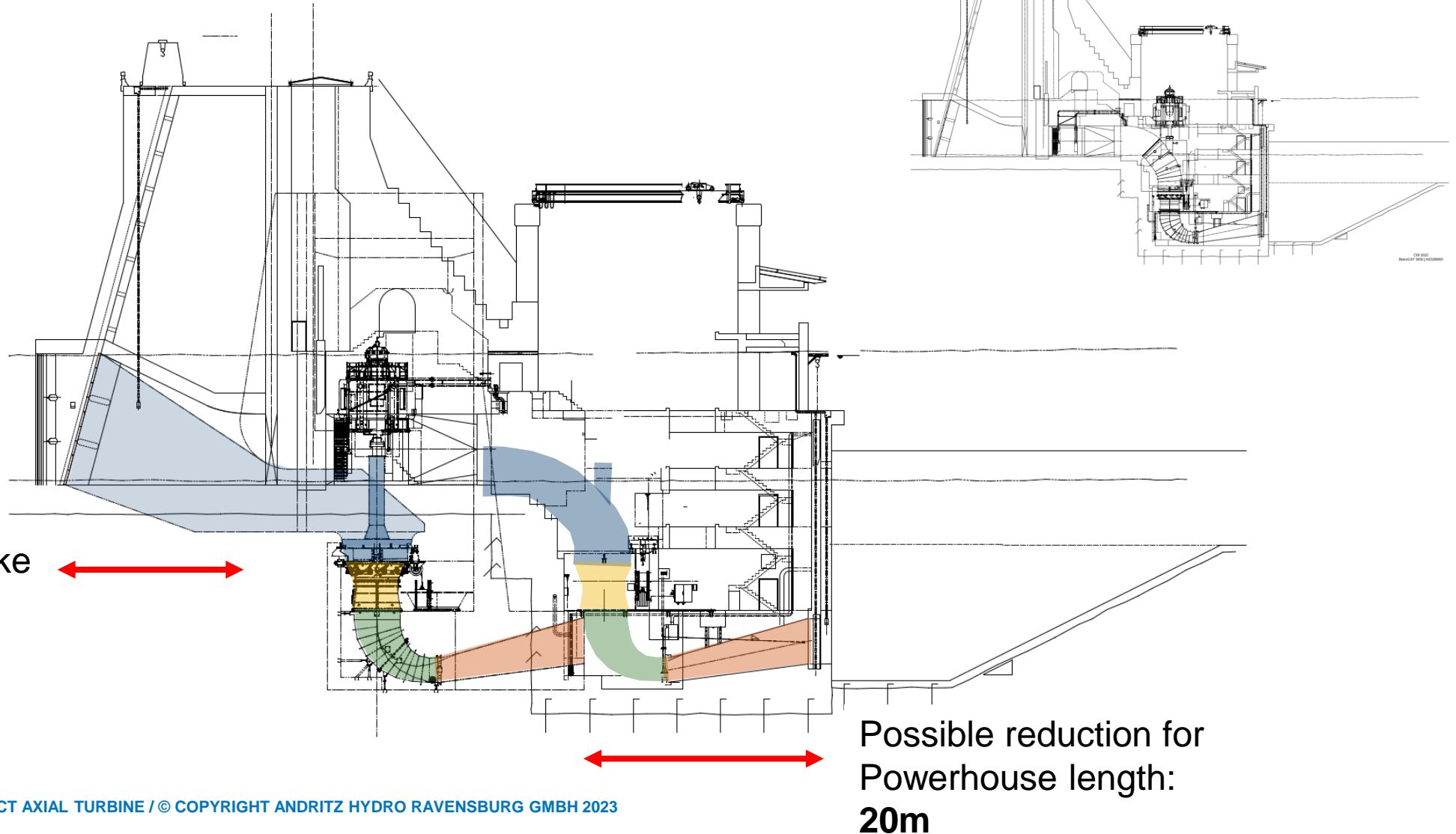
- Concrete structure
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- Draft tube elbow steel liner
- Draft tube exit section



# COMPACT AXIAL TURBINE



Implementation ShoeBox into classical „CAT“ Arrangement



Additional intake  
safings:  
**13m**

Possible reduction for  
Powerhouse length:  
**20m**



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