

The Following Presentation Is

Delivered to the

**Sixth International Hydrail
Conference**

Istanbul, Türkiye

by Stan Thompson on behalf of

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Manufacture of a hydrail track maintenance equipment power car powered by 50/150 kw alkaline hydrogen fuel cells

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Project director: Lead Researcher Dmitry N. Grigorovich



At the Second IHC in Herning, Denmark, the Russian Federation sent nine conferees, including interpreters.

Computer-aided design view of the hydrogen power car, showing fuel cell locations.



The power car is designed for electric supply during work in tunnels. It replaces motor platform MPD-2 and track-laying crane UK-25 which used diesel engines, creating dangerous levels of pollutants when working in tunnels.

The hydrail fuel cell power car eliminates diesel use. The associated crane is converted from diesel to electric operation, and powered by the car's fuel cells.



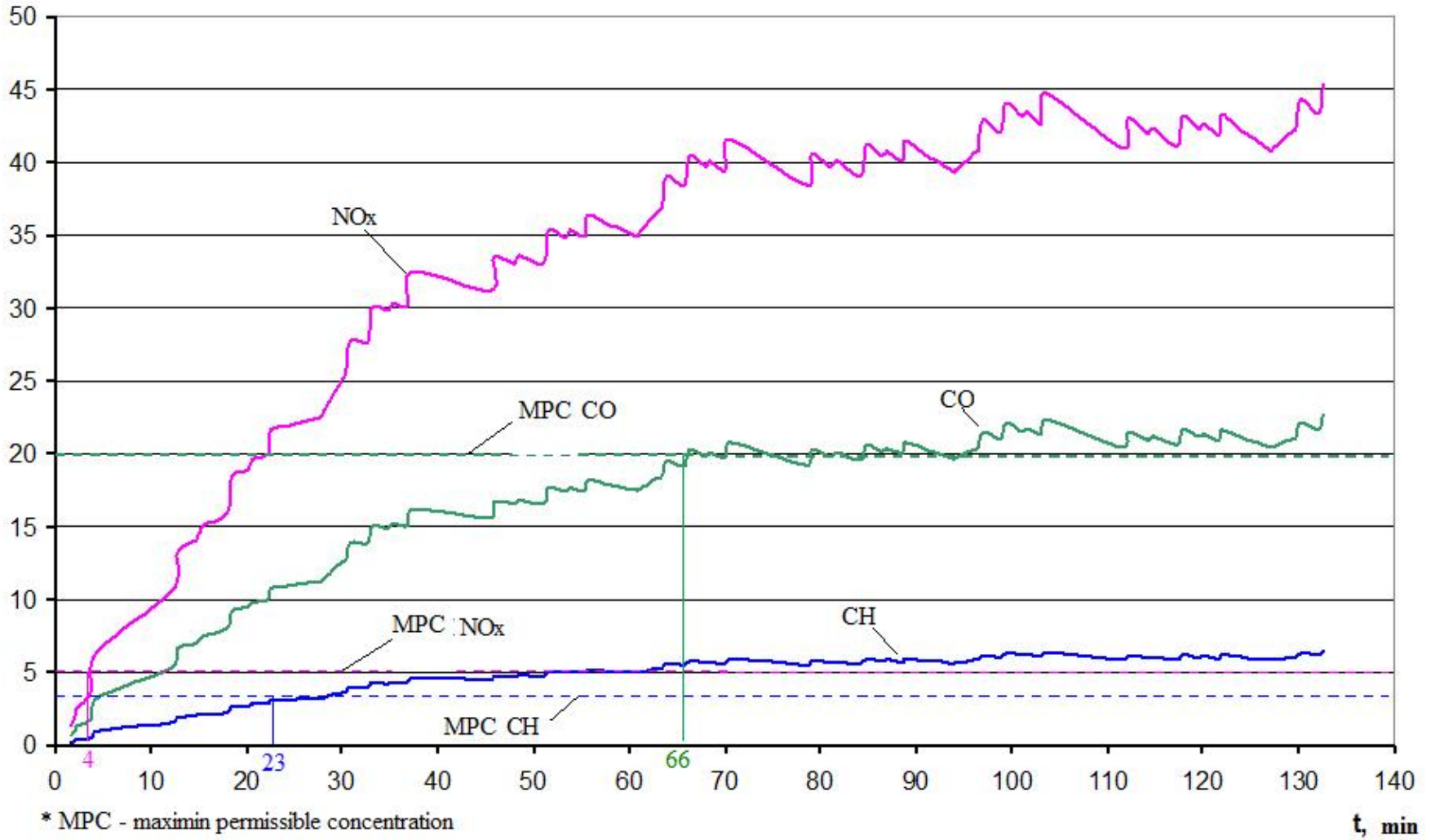
Electric power from the diesel motor platform MPD-2, is now replaced by energy from the fuel cell power car.



track-laying crane UK-25, converted for electric operation

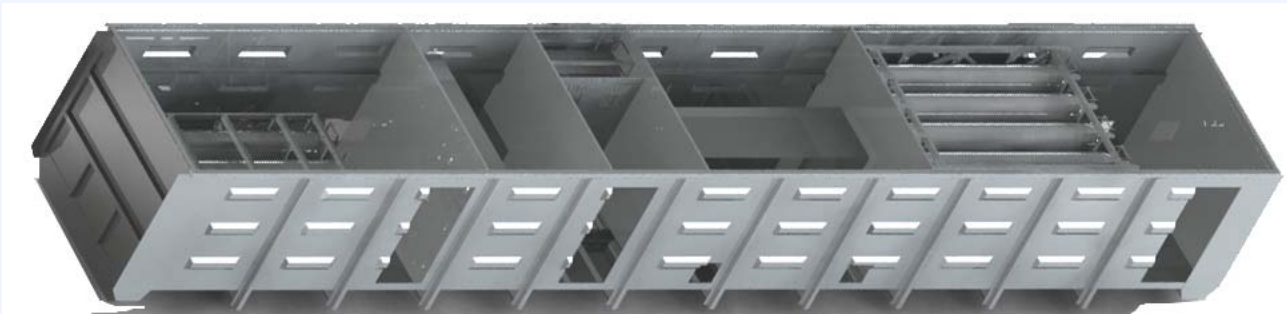
NO_x, CO & CH
mg/Nm³

Concentration of NO_x, CO & CH nearby working zone of track-laying trains.



Exhaust pollution from motor platform MPD-2 in a tunnel work zone.

Methods of refueling of the fuel cell power car :



Hydrogen generation onboard
(using electrolyzer)



Car refueling using waste H₂
from a chemical industrial complex



Hydrogen delivery in cylinders