Subject: Re: Description of values for powerType, transmission, controlType of
RS:propulsion
Posted by   on Mon, 09 Mar 2020 12:35:11 GMT
View Forum Message <> Reply to Message

Dear Jörg,

from my point of view, and since nobody answered your post since more than half a year, I think
this description of vehicle information is a bit too detailed for the current demand on railML.

> powerType - the source of energy for propulsion of the vehicle

Yes, we want to know something like that (I would not call it "source of energy" since there should
not be any source of energy except possibly the big bang) but I cannot even exactly tell you why
and what for we want to know that. In our software
 - it gives the use a rough information rather for grouping engines,
 - it switches some empiric formulas for entering new engines but that should have no relevance
for railML.

So, it is rather a "weak" attribute. I would call it "main power supply" or "traction type" and I would
currently provide [electric, diesel, gas, coal/coke, battery, hydrogen] as a "set of", so enumerable,
to allow hybrids having more than one supply.

Steam is not a power supply but rather a transmission medium except for steam storing engines
which are supplied with steam (instead of coal/coke) by an outside steam source. But steam may
be acceptable as a synonym for coal/coke for backward compatibility.

It may be worth thinking about distinguishing between "electric-overhead", "electric-thirdRail" and
"electric-battery" since any combination of these three kinds of supply is existing.

> transmission - the way to transmit and adjust the power to the drive

I agree with the definition but once more, we only need that for empiric formulas and this is
possibly outside the scope of railML.

> Currently we have [electric, hydraulic, mechanical].

Here, steam should be available as a transmission medium from coal/coke to the wheels.
The problem is that there is no fixed border between the options: There are plenty of
hydro-mechanic gears (starting converter + mechanical couplings in many modern small railcars,
same technology as in street-cars with automatic gear) and there are even electro-mechanic
hybrids at least imaginable (same technology as in some hybrid street-cars). So again, a "set of"
(enumerable) would be necessary.

> Although not described in the wiki "hydraulic" stands for hydrodynamic and
> hydrostatic transmission. The latter one is not really used for locomotive
> traction why a discrimination would thought not necessary.

The latter is used for some maintenance vehicles and railway cranes which some customers really want to have in our software. But since all this is rather "nice to have", I don't think that we need to go more into details.

> controlType - the way to control the power output of the traction drive
> Currently we have [camshaftControl, contactorControl, rectifier,
> thyristorControl]. Are there any other ways of control?

Here we are at a place where I definitely want to jump off. I could describe how we encode the details of engine drives in our software, but I don't see any current demand for this in railML. For timetabling, the most important is to encode the traction force / tractive effort, the masses and in the last time, to go more into details of energy storing and recuperation and passenger services / features. So if you want to improve railML for vehicles, from my side I would think we should rather go in this direction.

Best regards,
Dirk.