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Subject: Definition of Emergency Stop Area for railML 3.3

Posted by [heidrun.jost@thalesgroup](mailto:heidrun.jost@thalesgroup) on Sun, 15 Oct 2023 07:36:24 GMT

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Dear all,

for railML 3.3 we need the definition of an Emergency Stop Area.

There are two types of Emergency Stop Areas:

1. Conditional Emergency Stop Area // train has to stop if the front end of the train is in rear of the start of the ESA
2. Unconditional Emergency Stop Area //train has to stop in each case

A suggestion would be to use the same definition for Emergency Stop Area like for WorkZone or LocalOperationArea.

However, to use the same approach we must clarify in advance:

What borders are possible for an Emergency Stop Area?

Is at the border in each case a track asset defined (case 1)?

Or is it also possible that the borders are on a pure kilometer value defined without a track asset behind (case 2)?

For case 1 it would be enough to define the Emergency Stop Area only in the interlocking schema, like we did for WorkZone and LocalOperationArea.

For case 2 the definition of the Emergency Stop Area would be necessary in infrastructure (to define the extension) and interlocking schema.

Here an example for an Emergency Stop Area defined only in interlocking schema:

```
<emergencyStopAreas>
  <emergencyStopArea id="IL_Z2MkZDPoiVaqfOJkdaGyJFa" type="conditional">
    <designator register="_costId" entry="EmergencyStopArea:BGS_ESA_BOR"/>
    <designator register="_sci_cc" entry="NO_A29_BOESABOR____"/>
    <designator register="_longName" entry="BGS_ESA_BOR"/>
    <!--commands: NSO, NSOF-->
    <hasCommand ref="Z0kA0gRG50Q18PZDDbeIN2Va"/>
    <hasCommand ref="lwkLA8DEmOasBk3gMDNTE9"/>
    <!--MainSignal:BGS_BOR_L03-->
    <isLimitedBy ref="IL_KZZQNdQqiwF0aQBFDDe4PNoa"/>
    <!--MainSignal:BGS_BOR_M04-->
    <isLimitedBy ref="IL_ytQMqbycKleaAmazUvV8Oa"/>
    <!--TrackSection:BGS_BOR_05-->
    <trackAssetInArea ref="IL_ZDDQ3u6sLwKfWMciOKX1FFb"/>
    <!--Derailer:BGS_BOR_Sp_7-->
    <trackAssetInArea ref="IL_Z2QkbTGQeys24OuOVLuzzpb"/>
    <!--Point:BGS_BOR_1-->
    <trackAssetInArea ref="IL_C547s3mBPL9OU2TFR07IZZ9"/>
    <deactivationKey ref="IL_rYAJ3yDJzZD3ZZPqtrAQBKya"/>
  </emergencyStopArea>
</emergencyStopAreas>
```

```
<signalWithAspect/>
<!--KeyLockSiding:BGS_BOR_Slas1-->
<keyLockInState id="KL_1">
  <givenState>
    <relatedLockAndState inState="released">
      <refersToKeyLock ref="IL_KN4NRktuSTejZHFEZD66Ae79"/>
    </relatedLockAndState>
  </givenState>
</keyLockInState>
<levelCrossingInState/>
<releasedForLocalOperation ref="IL_EIkM09NKcKf7UKZZw0dbOTb"/>
</emergencyStopArea>
</emergencyStopAreas>
```

Therefore the question:

Which borders are possible for Emergency Stop Areas?

Best regards,

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Heidrun Jost

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Subject: Re: Definition of Emergency Stop Area for railML 3.3  
Posted by [Jörg von Lingen](#) on Mon, 20 Nov 2023 05:37:20 GMT  
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Thanks Heidrun for this post.

The definition of borders of an ESA will come from operational rules of the infrastructure manager.

When considering only IL domain for definition of ESA one would always need some kind of track asset (signal, detection point etc.) as border elements. Otherwise it might be conceivable to define special border elements in IS which are then referred to.

As proposed such ESA can use a similar definition as for WorkZone or LocalOperationArea. However, for the modelling in railML3.3 it needs to be discussed before what is needed in addition to border elements.

- 1) isLimitedBy = reference to border elements
- 2) trackAssetInArea = references to any track assets inside (optional/mandatory)?
- 3) any track asset states?
- 4) any additional information, e.g. validity?

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Subject: Re: Definition of Emergency Stop Area for railML 3.3  
Posted by [Terje Nordal](#) on Wed, 07 Feb 2024 13:31:05 GMT  
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Dear Heidrun and Jörg,

For a joint Norwegian (Bane NOR and Jernbanedirektoratet) suggestion on how to handle this topic, see the following forum post:  
<https://www.railml.org/forum/index.php?t=msg&goto=3190>.

Best regards  
Terje

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