

**5th CSPCWG MEETING
Sydney, 18-21 November 2008**

Paper for Consideration by CSPCWG

PIPELINE TUNNELS

Submitted by:	Norway
Executive summary:	Pipelines to and from the oil and gas fields in the North Sea are lead through tunnels the last couple of miles to the coast. Norway is making a proposal for the depiction of the pipeline tunnel entrance.
Related documents:	M4 and INT 1.
Related Projects:	Revision of M4, New editions of INT1

Introduction / Scope

Oil and gas pipelines from sea to shore are in some cases disappearing into mined tunnels some distance from the rocky coast of western Norway.

The route of the tunnel is not reported to NHS, and the pipelines inside the tunnel are not vulnerable to damage from anchoring etc.

Norway thinks it is necessary to show the entrance to a pipeline tunnel by some means. This is to show that the pipeline is in use, and to distinguish it from partly removed pipelines out of use.

Analysis / Discussion

Is the *entrance of a submarine pipeline tunnel* to be shown in charts?

Norway is producing new large scale charts covering shore installations for the offshore industry.

Oil and gas pipelines from sea to shore are disappearing into mined tunnels some distance from shore.

The route of the tunnel is not reported to NHS, and the pipelines are not vulnerable to damage from anchoring etc.

These pipelines are not covered or *buried* as in M4 B-444.5, and we do not know either route or depth. B-444.5/L42 is therefore not usable.

B-444.5	Pipes of all types buried so deep that they are not vulnerable to damage from anchoring should not be charted (so that mariners are not unnecessarily inhibited from anchoring or fishing). In marginal cases they may be charted in magenta with a note stating the nominal depth to which they are buried.
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----- Buried 1-6m ----- **L 42**

Will it be correct just to end the pipeline symbol where the pipeline disappears from the sea bottom and proceeds into the tunnel, or should we show the tunnel entrance as on roads?

B-363 TUNNELS, CUTTINGS

B-363.1 A tunnel entrance shall be indicated by a sign similar to a bracket; the line of the railway or road underground shall be represented by dashed lines.



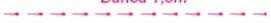
Proposal of amendments

Similar to the symbol for road tunnels a new symbol could be something like this. The dashed line showing the alignment of the tunnel is omitted.



Section B-444 of M4, and part L in INT1 would be affected:

Proposal for amendment of INT1:

42.1		Nedgravd rørledning (med angitt dybde under havbunnen) <i>Buried pipeline/pipe (with nominal depth to which buried)</i>		444,5
42.2		Tunnelåpning for rørledning i tunnel (tunneltrasé ukjent) <i>Tunnel entrance of pipeline in tunnel (tunnel alignment unknown)</i>		

L42 could be divided into 42.1 and 42.2.

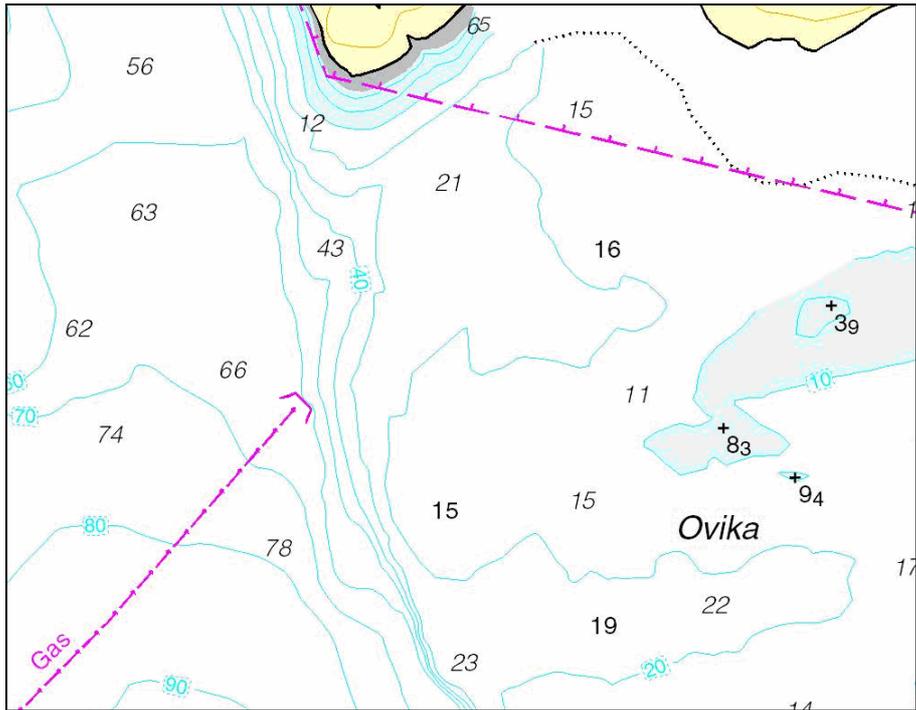
Proposal for amendment of M4:

B-444.8	An entrance of a pipeline tunnel shall be indicated by a sign similar to a bracket; the line of the pipeline underground shall not be shown		L42.2
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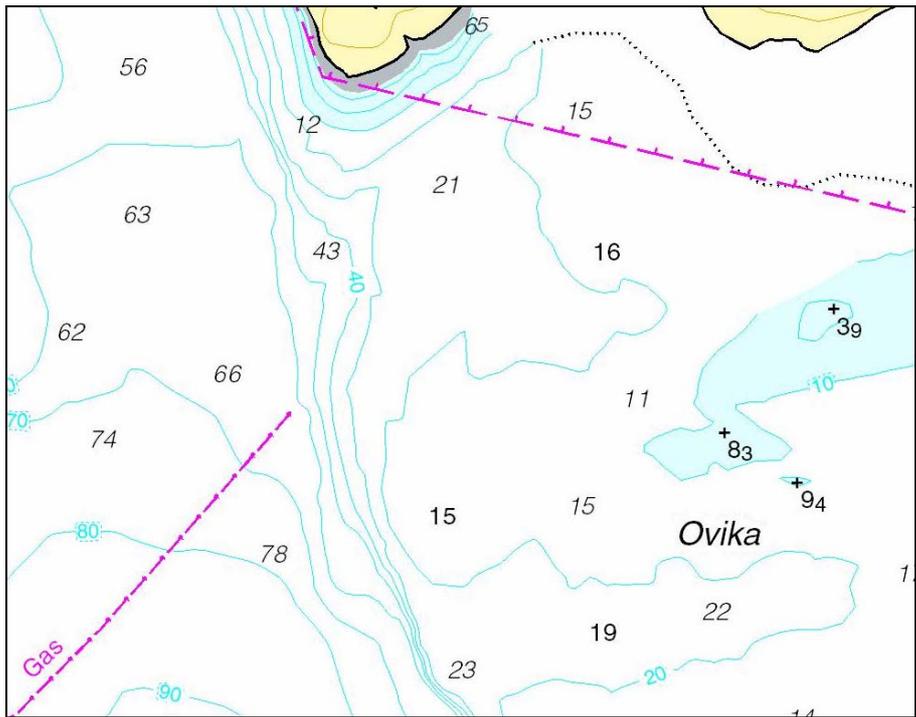
Insert a new point B-444.8 at the end of section 444.

Examples from charts

The two examples below are taken from a Norwegian chart published in 2008. First example shows how it looks like with a bracket sign:



Tunnel entrance shown



Tunnel entrance not shown

Are there any HO's having similar situations?

Due to safety of navigation NHS thinks it would be wise to give the mariners the information of the condition of such pipelines.

From time to time disused and damaged cables and pipelines are unsuccessfully attempted to be removed. If we do not show the entrance of the pipeline tunnel the mariner could misinterpret the information.

Action required of CSPCWG

The CSPCWG is invited to consider:

- whether a new M-4 and INT1 specification is justified;
- if so, is the NHS guidance suitable for adoption as the International specification.