N.1.3 Leading Light (C)

A light associated with other lights so as to form a leading line to be followed. (adapted from IHO Dictionary, S-32, 5th Edition, 2794).

Graphics	Encoding Instructions	Object Encoding
Real World  *Chart Symbol*  *IENC Symbolization*  	A) Leading lights are encoded as a collection object M_AGGR (Aggregation) consisting of the front and rear lights, which are encoded separately. B) PILPNT, MORFAC or LNDMRK must be defined as the master object with LIGHTS as the slave object. If the supporting structure is not known, PILPNT must be used. C) OBJNAM should be placed on the supporting structure (master object) and not on the LIGHTS. D) The attribute ORIENT is not used for leading lights, except for directional lights. E) If there are multiple lights in the same position, make one LIGHTS object and use MLTYLT to define the number of lights represented. The sector in which the leading light is visible from seaward is encoded as a LIGHTS with CATLIT = 4,12 - front leading light 4,13 - rear leading light 4,14 - lower leading light 4,15 - upper leading light F) EU: The exhibition condition of light EXCLIT is defined as follows: 1. light shown without change of character: a light shown throughout the 24 hours without change of character. 2. daytime light: a light that is only exhibited by day. 3. fog light: a light that is exhibited in fog or conditions of reduced visibility. 4. night light: a light that is only exhibited at night. G) The light characteristic LITCHR is defined as follows:	**Coding of Master Object** **Object Class =** PILPNT(P) (M) OBJNAM = [“Name”+(River Mile), e.g. Blackburn Island Lt. (284.4)] (O) NOBJNM = (Refer to Section B, General Guidance) (O) CONDTN = [1 (under construction), 2 (ruined), 3 (under reclamation), 5 (planned construction)] (M) SCAMIN = [EU: 22000; US: 60000] (C) SORDAT = [YYYYMMDD] (C) SORIND = (Refer to Section B, General Guidance) **Coding of Equipment Object** **Object Class =** LIGHTS(P) (M) CATLIT = [1 (directional function), 4 (leading light), 12 (front), 13 (rear), 14 (lower), 15 (upper)] (M) COLOUR = [1 (white), 3 (red), 4 (green), 6 (yellow)] (M) EXCLIT = [1 (light shown without change of character), 2 (daytime light), 3 (fog light), 4 (night light)] (M) LITCHR = [1 (fixed), 2 (flashing), 4 (quick-flashing), 7 (isophased)] (C) ORIENT = [xxx.xx] (C) SIGPER = [xx.xx] (e.g. signal period of 12 secondscoded as "12") (C) SIGGRP = [(x),(x)…], e.g., (), (2), (2+1) (C) SIGSEQ = [L.LL + (E.EE)] (seconds) (C) INFORM = US: descending bank (e.g. LDB for left descending bank) (C) MLTYLT = Integer number of lights, minimum 2. (O) STATUS = [8 (private), 14 (public)] (O) CONDTN = [1 (under construction), 2 (ruined), 3 (under reclamation), 5 (planned construction)] (M) SCAMIN = [EU: 22000; US: 60000]

	1. fixed: a signal light that shows continuously, in any given direction, with constant luminous intensity and colour 2. flashing: a rhythmic light in which the total duration of light in a period is clearly shorter than the total duration of darkness and all the appearances of light are of equal duration 3. long-flashing: a flashing light in which a single flash of not less than two seconds duration is regularly repeated 4. quick-flashing: a light exhibiting without interruption very rapid regular alternations of light and darkness 5. very quick flashing: a flashing light in which flashes are repeated at a rate of not less than 80 flashes per minute but less than 160 flashes per minute 6. ultra quick flashing: a flashing light in which flashes are repeated at a rate of not less than 160 flashes per minute 7. isophased: a light with all durations of light and darkness equal 8. occulting: a rhythmic light in which the total duration of light in a period is clearly longer than the total duration of darkness and all the eclipses are of equal duration 9. interrupted quick flashing: a quick light in which the sequence of flashes is interrupted by regularly repeated eclipses of constant and long duration 10. interrupted very quick flashing: a light in which the very rapid alterations of light and darkness are interrupted at regular intervals by eclipses of long duration 11. interrupted ultra quick flashing: a light in which the ultra quick flashes (160 or more per minute) are interrupted at regular intervals by eclipses of long duration 12. morse: a rhythmic light in which appearances of light of two clearly different durations are grouped to represent a character or characters in the Morse code 28. alternating: a signal light that shows, in any given direction, two or	(C) SORDAT = [YYYYMMDD] (C) SORIND = (Refer to Section B, General Guidance) **Object Encoding** **Object Class =** NAVLNE(L) (M) CATNAV = [1 (clearing line), 2 (transit line), 3 (leading line bearing a recommended track)] (M) ORIENT = [xxx or (UNKNOWN)] (degree (°)), e.g., 110 (M) SCAMIN = [EU: 22000; US: 60000] (C) SORDAT = [YYYYMMDD] (C) SORIND = (Refer to Section B, General Guidance) **Object Encoding** **Object Class =** RECTRC(L) (M) CATTRK = [1 (based on a system of fixed marks)] (O) DRVAL1 = [sxx.x] (s: sign, negative values only) (O) DRVAL2 = [xx.x] (M) ORIENT = [xx.x] (M) TRAFIC = [1 (inbound), 2 (outbound), 3 (one-way), 4 (two-way)] (M) SCAMIN = [EU: 22000; US: 60000] (C) SORDAT = [YYYYMMDD] (C) SORIND = (Refer to Section B, General Guidance)

	more colours in a regularly repeated sequence with a regular periodicity H) The signal period SIGPER is the time occupied by an entire cycle of intervals of light and eclipse. I) The signal group SIGGRP is the number of signals, the combination of signals or the morse character(s) within one period of full sequence. The signal group of a light is encoded using brackets to separate the individual groups. A group of signals may be a single number, a chain of numbers separated by "+", a sequence of up to 4 letters or a letter and a number. A fixed light has no signal group. Where no specific signal group is given for one of the light characteristics, this should be shown by an empty pair of brackets. J) The sequence of times occupied by intervals of light and eclipse is encoded in SIGSEQ. Example: “00.8+(02.2)+00.8+(05.2)” encodes a signal sequence with two intervals of light and two intervals of eclipse. K) Navigation line of the leading line is encoded as a line object class NAVLNE (Navigation line) with attribute ORIENT (Orientation) set to the direction of the navigation line and attribute CATNAV set to 3 (leading line bearing a recommended track). The running part of the leading line is encoded as a line object class RECTRC (Recommended track) with attribute ORIENT (Orientation) set to the direction of the recommended track. The line objects RECTRC and NAVLNE are als components of the meta object M_AGGR. L) The extent of the navigation line depends on the visibility of the navigational aid(s). M) The recommended track is that portion of a 'navigation line' that a ship should use for navigation. N) ORIENT is the direction from the waterside towards the lights or beacons. O) Official aids to navigation shall be encoded.	

From IHO S-57 APPENDIX B.1 Annex A - Use of the Object Catalogue for ENC