

Neo-Brahmi Generation Panel:

## Analysis of comments for Gurmukhi script LGR Proposal for the Root Zone

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Revision: June 30, 2019

Neo-Brahmi Generation Panel (NBGP) published the Gurmukhi script LGR Proposal for the Root Zone for [public comment](#) on 27 July 2018. This document is an additional document of the public comment [report](#), collecting NBGP analyses as well as the concluded responses. There is 1 (one) comment submission. The analysis is as follow:

No.	1	From	Liang Hai
Subject	A quick review of the Gurmukhi proposal		
Comment	§3, "... but it has now been established, on the basis of its name, that the Indians did have a system of writing which must have been borrowed freely from local script.": How's this (and the following two paragraphs, and the whole §3.1) even relevant to the LGR proposal? Authors shall look for a proper place to publish their history research.		
NBGP Analysis	Agree.		
NBGP Response	Delete the irrelevant text		
Comment	§3.3, "... ligatures are formed only with following /h, r and v/ consonants.": Has the well-known post-base form of ya already fell out of use in common text? Probably should mention this.		
NBGP Analysis	Yes the post base form of ya is not used or not even taught in schools.		
NBGP Response	No action required.		
Comment	§3.3.2, "Unlike Devanagari, Gurmukhi consonants are also used to represent consonant sounds where / ə / is not included in them.": Both Hindi and Punjabi-Gurmukhi orthographies allow implicit dead consonants. It's just Punjabi-Gurmukhi allows more. This level of spelling and reading rules are not really relevant to the proposal. An encoded pure		

	killer (virama/halant) is only used when the mark or its conjunct-forming effect visually exists.
NBGP Analysis	This is just meant to highlight the difference between Gurmukhi and Devanagari consonants.
NBGP Response	No action required.
Comment	§3.3.2, 'In Gurmukhi, virama "◌̣" (U+0A4D) is used in place of halant "◌̣" (U+094D)': This sentence only brings confusion. U+094D as a Devanagari-specific character has nothing to do with Gurmukhi. Are the authors going to clarify such relationship between other cognate graphemes too?
NBGP Analysis	We agree that there is no need, it should just be in Gurmukhi virama "◌̣" (U+0A4D) is used to create conjuncts
NBGP Response	Modify the text in 3.3.2.
Comment	§3.3.4: "Suprasegmental" is not an appropriate term here, since at least gemination is segmental. Also, according to §3.3.4.1 and §3.3.4.2, the nasality is not pure nasalization of vowels but is segmental nasal consonants also.
NBGP Analysis	Text needs to be changed
NBGP Response	Following text added to clear the confusion. "The main function of these symbols is to denote nasalation of vowel (tippi), which is a supersegmental phoneme but it is also used to denote the gemination of nasal consonants which is segmental. The symbol addak is also used to denote the stress (as in ikk and germination is in ikki)which is supasegmental. Bindi is supersegmental."
Comment	§3.3.4.2, rule 1: The detailed phonetic spelling logic (eg, "... the forms of u, uu vowels after any other vowel ...") is not really relevant to text encoding.
NBGP Analysis	Agree with the comment.
NBGP Response	Modify the text in 3.3.4.2.

Comment	§3.3.4.3, “In these letters, NGA (ᳵ) and NYA (ᳶ) are nasal consonants so these are stressed or doubled by the nasal sign tippi.”: Suspicious explanation. What about na and ma then?
NBGP Analysis	Agree with the comment.
NBGP Response	Text modified in 3.3.4.3 as “In these letters, NGA (ᳵ) and NYA (ᳶ) are stressed or doubled by the nasal sign tippi.”
Comment	§3.3.4.4, “But in Gurmukhi, these letters can also be written as a single unit ...”: There’s a difference between writing and encoding.
NBGP Analysis	As already discussed in detail, some of the letters can be encoded in more than one way
NBGP Response	No action required.
Comment	§3.3.5, “Some of the character combinations ... are encoded using ZWJ and ZWNJ.”: How are multiple-vowel-sign clusters encoded using ZWJ/ZWNJ?
NBGP Analysis	As already discussed in detail there are cases such as in old or religious text, where a typical visual shape of an akshar is desired, such as two vowel signs attached with a consonant. For rendering such shapes ZWJ/ZWNJ is placed between the two vowel signs.
NBGP Response	No action required.
Comment	§4.1.3: Visarga is used for marking abbreviations according to §3.3.4.5. Need to clarify this either in this section or in §4.1.3.
NBGP Analysis	Clearly mentioned in section 4.1.3 and 3.3.4.5
NBGP Response	No action required.
Comment	§4.1.6, “These characters can occur as single character words, but in TLD, single character labels are not allowed, so these letters will not be added.”: Should introduce and better discuss the usage of them in “single character words”, as those words can presumably appear in multi-word labels too.

NBGP Analysis	These characters cannot occur alone in Gurmukhi text, so they cannot be part of any Gurmukhi word. They always come with some specific vowel signs only.
NBGP Response	No action required.
Comment	§4.1.6: Also, since a/aira is also a vowel carrier, the section needs to be worded more accurately.
NBGP Analysis	Agree with comment.
NBGP Response	Added more explanation about aira in 4.1.6
Comment	§5.3, “It is very easy for a native language speaker to count the number of syllables in a sequence”: Don’t exaggerate. The split of phonetic syllables and orthographic syllables in Indic scripts makes it often confusing for native users to count a certain type of syllables.
NBGP Analysis	Agree with the comment.
NBGP Response	Text modified as “In Gurmukhi, syllables where / $\text{ə}$ / vowel follows a consonant, are not marked at the orthographic level. But native speakers know whether there is a syllable or not at the phonological level when they pronounce the word.”
Comment	§5.3, “The definition is a combination of 2 rules”: Similar streamlined rules/patterns should be included in other scripts’ corresponding sections in their LGR proposals. Also, the “{CH}” part in the pattern is worth considering by authors of the other proposals.
NBGP Analysis	Agree with the comment.
NBGP Response	No action required.
Comment	§5.3, 3rd table, row 2, “Zero or one Consonant + Virama/Addak sequence followed by consonant is a syllable”: `CA` is a preceding orthographic syllable and is not relevant to this rule. The rule above the table is not even consistent with the original introduction.

NBGP Analysis	Agree with the comment.
NBGP Response	Rephrased the generation rules for Gurmukhi syllable
Comment	§5.3, “Examples of combination of the rules”, “2. ਪਿਰੰਦਾ (parindā)”: The authors keep mixing up phonetic structures and written structures. There’s no V (already defined as independent vowel letters) in this word. It’s CCMDCM. Same problem in “3. ਅੰਦਰ (andar)”: it is VDCC, what are “Vm” and “CvC”?!
NBGP Analysis	Agree with the comment.
NBGP Response	Rephrased the generation rules for Gurmukhi syllable
Comment	§7: A comprehensible pattern for other reviewers to consider: `[C[N]{HC}[M]   V] [A B D]`
NBGP Analysis	The Authors of this document are well versed with the ISCII standard and the C-DAC GIST IDN Policy documents from where this comprehensible pattern is taken and suggested. The Section 7 is meant to be simplified version of the same with additional bounds that the LGR procedure puts. The rules given in Section 7 have been specifically made simple to be “comprehensible” even to a non-technical user. It is unfortunate that the commenter could not “comprehend” the same.
NBGP Response	No action required.
Comment	§7.6: Probably too restrictive as this is about spelling conventions (note ਐ and ੐ are already special cases, and there can be more). It’s not future-proof to limit the usage when there’re no confusability issues.
NBGP Analysis	We are following the Punjabi Grammar Rules, otherwise all kind of illegal combinations can come up, such addak followed by another addak, bindi, tippi etc. Other illegal combinations such as addak following long vowels may also be formed. To avoid such illegal combinations its necessary to be restrictive.
NBGP Response	No action required.