Neo-Brahmi Generation Panel:

Analysis of comments for Gurmukhi scritp LGR Proposal for the Root Zone

Revision: June 30, 2019

Neo-Brahmi Generation Panel (NBGP) published the Gurmukhi script LGR Propsoal for the Root Zone for [public comment](https://www.icann.org/public-comments/devanagari-gurmukhi-gujarati-scripts-lgr-2018-07-27-en) on 27 July 2018. This document is an additional document of the public comment [report](https://www.icann.org/en/system/files/files/report-comments-devanagari-gurmukhi-gujarati-scripts-lgr-20oct18-en.pdf), collecting NBGP analyses as well as the concluded responses. There is 1 (one) comment submission. The analysis is as follow:

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| 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 superasegmental 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 (**ਙ**) and NYA (**ਞ)** 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 (ਙ) and NYA (ਞ) 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 explaination 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 syllales 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 /(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 strucutres 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 aby 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. |