

Universal Multiple-Octet Coded Character Set  
International Organization for Standardization  
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Международная организация по стандартизации

**Doc Type: Working Group Document****Title: Proposal for encoding the Old Lisu script in the BMP of the UCS****Author: China****Status: Member Contribution****Action: For consideration by JTC1/SC2/WG2 and UTC****Date: 2007-09-13**

**1. Introduction.** There are 630,000 Lisu people in China, mainly distributed in the regions of Nujiang, Diqing, Lijiang, Dehong, Baoshan, Kunming and Chuxiong in the Yunnan Province. Another 350,000 Lisu live in Myanmar, Thailand and India.

Somewhere between 1908 and 1914 a Karen preacher from Myanmar by the name of Sara Ba Thaw modified the shapes of Latin characters and created the Old Lisu script. Afterwards, British missionary James Outram Fraser and some Lisu pastors revised the script to make it better. At present, about 200,000 Lisu in China use the Old Lisu script.

In China, the Old Lisu script is widely used in domains like education, publishing, the media and religion. Various schools and universities at the national, provincial and prefectural levels have been offering Lisu courses for many years (1952: Central National University; 1978: Yunnan Nationality University; 1985: Nujiang Medium Normal School). These schools has trained large groups of professionals in the Lisu language. In the publishing aspect, a lot of literature in the Old Lisu script has been published since 1952 by provincial and prefectural publishers (1952: Yunnan People's Publishing Agency; 1957: Yunnan Nationality Publishing House; 1981: Dehong Nationality Publishing House). These publications include dictionaries, song books, primers, readers, and textbooks. Among them, 145,000 copies of the 1994 Lisu primer edited by Yunnan Minority Language Commission and Nujiang Minority Language Commission have been distributed. As for the media, Yunnan People's Broadcasting Station launched a Lisu language broadcast in 1957. Two newspapers have been publishing sections in the Old Lisu script since their establishments (1954: *Tuanjiebao* of Dehong; 1983: *Nujiangbao* of Nujiang). On the religious side, literature published in the Old Lisu script includes the Bible and hymn books.

The Old Lisu script has recorded and summarised the Lisu people's rich experiences and achievements accumulated from their long-term production life. It is an extremely precious cultural heritage.

**2. Script Name.** The Old Lisu script is commonly known in the West as the Fraser script, named after James Outram Fraser. However, such a naming scheme is not preferred for the following reasons:

- (1) The name *Old Lisu* has been used for a long time in teaching, research, broadcasting, and relevant policies and regulations in China. Within the Lisu nationality, whenever the Old Lisu script is mentioned, it is unmistakably understood to mean the script being encoded in this proposal.
- (2) The practice of naming a script after a particular originator should be avoided, as the development of a script is often a co-operative effort. The Old Lisu script was originally created by Sara Ba Thaw, a Karen preacher from Myanmar. Then British missionary James Outram Fraser and Lisu

Christian clergymen amended and improved Ba Thaw's script. Therefore, it is not correct to name a script after a particular person.

- (3) Many of the world's scripts are not named after a person. E.g., neither English nor Chinese is named after its creator despite his invention of the script.

Hence, the script being encoded here is best called the *Old Lisu* script.

**3. Alphabet.** There are 40 letters in the Old Lisu alphabet. 30 consonants and 10 vowels were respectively written with 20 and 7 Latin capital letters in upright and turned positions:

B	P	ɒ	D	T	⊥	G	K	κ
J	C	Ɔ	Z	F	Ɔ	M	N	L
S	R	ʀ	Λ	V	H	Ɔ	ʃ	W
X	Y	B	A	∇	E	E	I	O
U	∩	⊥	D					

### 3.1. Consonant Letters

B	[b]	P	[p]	ɒ	[p <sup>h</sup> ]	D	[d]	T	[t]	⊥	[t <sup>h</sup> ]
G	[g]	K	[k]	κ	[k <sup>h</sup> ]	J	[dz]	C	[tɕ]	Ɔ	[tɕ <sup>h</sup> ]
Z	[dz]	F	[ts]	Ɔ	[ts <sup>h</sup> ]	M	[m]	N	[n]	L	[l]
S	[s]	R	[ʒ]	ʀ	[z]	Λ	[ŋ]	V	[h]	H	[x]
Ɔ	[ɦ]	ʃ	[f]	W	[w]	X	[ɕ]	Y	[ʒ]	B	[ʎa]

Consonant letters have an inherent [a] vowel unless followed by an explicit vowel letter. ɒ OLD LISU LETTER GHA sometimes represents a vowel and sometimes a consonant (e.g., ɒ CI κU: A. ɒ.), and so are letters W WA and Y YA. Letters Ɔ HHA and V HA represent allophones in complementary distribution: the former occurs only in a final imperative marker while the latter appears elsewhere, causing nasalisation to the whole syllable.

### 3.2. Vowel Letters

A	[a]	∇	[ɛ]	E	[e]	Ɔ	[ø]	I	[i]
O	[o]	U	[u]	∩	[y]	⊥	[ɯ]	D	[ə]

With the exception of ⊥ UH and D OE, vowel letters starting a syllable have an unmarked glottal-stop onset. Letters E E, O O and U U can form diphthongs with a preceding Y YA (i.e., YE, YO and YU).

A note should be made about the appearance of the Old Lisu letters. A number of letters may look similar to certain Latin characters, yet it is best to encode the whole set for Old Lisu for the following reasons:

- (1) Behaviour difference: Old Lisu does not have case whereas Latin does. Unification would mean introducing lower-case Latin characters into the Old Lisu script, which are meaningless and unrecognisable to Lisu readers. This would be unacceptable unless **all** applications can be tailored to guarantee that no upper-case letter will ever get mapped to lower case in any text process

involving Old Lisu texts. Such tailoring may be implemented directly in code (see TUS 5.0 section 5.18, pp. 186–187), but it is highly unlikely that anyone is going to do the required implementation for a small minority, especially with such far-reaching consequences as changing the casing for **all** upper-case letters in ASCII.<sup>1</sup>

- (2) Script unity: The 40 Old Lisu letters form a distinct set in the script, but only some (25) members of the set can be considered candidates for unification with Latin. Unification would destroy this unity and mean the rest of the set, e.g.,  $\forall$   $\text{AE}$  and  $\cap$   $\text{UE}$ , have to be added to Latin despite being used only in Old Lisu contexts and nowhere else.
- (3) Visual confusion: Due to case-folding stability, unification would require the addition of non-existent turned lower-case letters, some of which would be intolerably confusing with certain upright letters, e.g., d vs. turned p, p vs. turned d, n vs. turned u. This clearly defeats the purpose of unification.

It should also be noted that in Cherokee (U+13A0..U+13FF) over 20 characters look like Latin and yet they are not unified. Hence, all letters in the Old Lisu alphabet are to be encoded separately, at U+A4D0..U+A4F7.

**4. Tone Letters.** The Old Lisu script has six tone letters, one for each simple tone:

Orthography	Pitch	Lisu Name	English Name
.	55	MY.. TI.	MYA TI
,	35	N. PO..	NA PO
..	44	MY.. CY.	MYA CYA
.,	33	MY.. BO.,	MYA BO
;	42	MY.. N.	MYA NA
:	31	MY.. JE.,	MYA JEU

Tone letters are placed after the syllable to mark tones. Despite their resemblance to Latin punctuation marks, TONE MYA TI, TONE NA PO, TONE MYA JEU and TONE MYA NA should be encoded separately (at U+A4F8..U+A4FB) because they behave differently: The tone letters are word-forming (gc=Lm) while the Latin punctuation marks are not (gc=Po). Unless special tailoring is done in **all** applications, forcing unification would create problems in determining word boundaries in text processes like word selection and whole-word searching.

The Old Lisu letters *tone mya cya* and *tone mya bo* are encoded as the following sequences:

.. *mya cya* = . MYA TI + . MYA TI  
 ., *mya bo* = . MYA TI + , NA PO

Combination tones like .; ;: .: .: (of which only .; is still in use whereas the rest are now rarely seen in China) have also been encountered (Figure 5). These can be encoded as sequences of the six simple tones above. The following lists some example sequences:

.: = . MYA TI + : MYA JEU  
 .; = , NA PO + : MYA JEU  
 ..: = .. *mya cya* + : MYA JEU = . MYA TI + . MYA TI + : MYA JEU

<sup>1</sup> TUS 5.0 section 5.18 (p. 189) also mentions that in most environments, including file systems, language-specific case mappings *must not* be used or data corruption will result.

∴ = ∴, *mya bo* + : MYA JEU = . MYA TI + , NA PO + : MYA JEU

Note that the tone sequence ∴ coincides with the ending intonation of a question and was traditionally used to signal a question at the end of a sentence, usually followed by a = PUNCTUATION FULL STOP, as in Figure 9. Since the '80s, however, this has been replaced by the European QUESTION MARK.

**5. Other Modifier Letters.** ' NASALISATION MARK is placed after a vowel to make it nasalised, as in o' [ʔõ<sup>33</sup>] 'goose'. The vowel \_ A GLIDE, pronounced [a] without an initial glottal stop (and normally bearing a 31 pitch), is written after a verbal form to mark various aspects, as in NU JE.,- ΛO., [nu<sup>33</sup>dʒe<sup>33</sup>a<sup>44</sup>ŋo<sup>33</sup>] 'you will go' and GO., ΛΞ., Λ\_ MI., [go<sup>33</sup>lɔ<sup>33</sup>ŋa<sup>44</sup>a<sup>31</sup>mi<sup>33</sup>] 'but'. It can be observed that these two characters are similar in appearance and behaviour to U+02BC ' MODIFIER LETTER APOSTROPHE and U+02CD \_ MODIFIER LETTER LOW MACRON, respectively. However, it is best to encode them separately (at U+A4FC..U+A4FD) for the following reasons:

- (1) Glyphic distinction: They are **not** identical to their spacing modifier letter look-alikes in fonts. In particular, OLD LISU LETTER A GLIDE is on the baseline while MODIFIER LETTER LOW MACRON falls below it.
- (2) Script unity: They are part of a patterned set of marks, along with the tone letters and punctuation, specific to the Old Lisu script.

**6. Digits.** There are no Old Lisu digits. The Lisu use Arabic numerals for counting.

**7. Punctuation.** -, OLD LISU PUNCTUATION COMMA and = OLD LISU PUNCTUATION FULL STOP are respectively used to denote a lesser and a greater degree of finality. These characters may look like (sequences of) Latin punctuation, but because they are part of a patterned set of marks in Old Lisu, it is best to encode them together with the other members of the set for script unity. Additional considerations specific to each character are given below.

U+A4FE -, PUNCTUATION COMMA: One possibility to encode it is to use the sequence <U+002D, U+002E>. This is not preferred in view of the following:

- (1) Glyphic distinction: The representative glyph used in this proposal is only one of several possible renderings. Figure 1 and Figure 2 show an alternative rendering with the dot on the same level as the bar. Figure 4 illustrates yet another rendering option, with the dot below the bar but right justified with it. This argues for a distinct identity of PUNCTUATION COMMA.
- (2) Behaviour difference: It cannot be properly processed as a unit if encoded as a sequence. Even though line-breaking can be handled correctly according to UAX #14 (LB21: × HY; Pair Table: HY ^ IS), word boundaries cannot be correctly determined. In particular, the sequence will be seen as two words instead of one according to UAX #29 (WB14: Any ÷ Any). This would be undesirable unless **all** applications can be tailored to recognise the sequence as one unit.

U+A4FF = PUNCTUATION FULL STOP: Though it looks like U+003D = EQUALS SIGN, they cannot be unified because they behave differently in relation to text processes. The former is a sentence-ending punctuation (gc=Po) that prevents a line break before (lb=EX) while the latter, a symbol (gc=Sm) with an alphabetic line-breaking property (lb=AL). Unless special tailoring can be done to **all** applications, unification would not be a good solution.

European punctuation marks like QUESTION MARK, EXCLAMATION MARK, PARENTHESES, QUOTATION MARK and HYPHEN are also used. The last of these is used to separate syllables in names. (HYPHEN is preferred to HYPHEN-MINUS according to TUS 5.0 in view of the latter's ambiguous semantics.)

**8. Line-breaking.** A line break may not be inserted between any pair of characters in the following set:

{a letter in the alphabet, a tone letter, OLD LISU LETTER A GLIDE, OLD LISU LETTER NASALISATION MARK}

A line break is prohibited before a punctuation despite intervening spaces. There is no line-breaking hyphenation.

**9. Word-breaking.** A word break may not occur between any pair of characters in the above set.

**10. Collating Order.** The sorting order of the Old Lisu alphabet generally starts with sequences of voiced, voiceless unaspirated, and voiceless aspirated consonants. The order is more or less fixed before ǝ HHA with only slight differences afterwards in the position of ʀ FA (cf. Figures 6 through 9). This traditional order is evidenced in available literature including a primer, a dictionary and two textbooks. However, due to the fact that Ɂ GHA most often represents a consonant rather than a vowel, in China it has recently come to be placed after ʏ YA as the last consonant (rf. Section 3. Alphabet.) As for tones, Figure 6 shows the traditional order, but in China, TONE MYA NA has been put before TONE MYA JEU (rf. Section 4. Tone Letters.) for teaching purpose for many years (Figures 10 and 11). Tones are followed by A GLIDE and NASALISATION MARK in that order (source: personal communication with David Morse). The collating order proposed here reflects the three aforesaid phenomena:

. tone mya ti U+A4F8 < , tone na po U+A4F9 < [. tone mya ti U+A4F8 . tone mya ti U+A4F8] < [. tone mya ti U+A4F8 , tone na po U+A4F9] < ; tone mya na U+A4FA < : tone mya jeu U+A4FB < \_ a glide U+A4FC < ' nasalisation mark U+A4FD < Ɂ ba U+A4D0 < ʀ pa U+A4D1 < ɗ pha U+A4D2 < ɗ da U+A4D3 < ʈ ta U+A4D4 < ɗ tha U+A4D5 < ɠ ga U+A4D6 < ʞ ka U+A4D7 < ʞ kha U+A4D8 < ʞ ja U+A4D9 < ɕ ca U+A4DA < ɕ cha U+A4DB < ʒ dza U+A4DC < ʃ tsa U+A4DD < ʃ tsha U+A4DE < ɱ ma U+A4DF < ɱ na U+A4E0 < ɱ la U+A4E1 < ɱ sa U+A4E2 < ʀ zha U+A4E3 < Ɂ za U+A4E4 < ʌ nga U+A4E5 < ʋ ha U+A4E6 < ɥ xa U+A4E7 < ǝ hha U+A4E8 < ʀ fa U+A4E9 < ʋ wa U+A4EA < ʞ sha U+A4EB < ʏ ya U+A4EC < Ɂ gha U+A4ED < ʌ a U+A4EE < ʋ ae U+A4EF < ɛ e U+A4F0 < ɛ eu U+A4F1 < ɪ i U+A4F2 < ɔ o U+A4F3 < ʊ u U+A4F4 < ɲ ue U+A4F5 < ɽ uh U+A4F6 < ɗ oe U+A4F7

**11. Other Issues.** It may be concerned that the similarities of certain Old Lisu letters with Latin characters may allow spoofing of IDNs. This concern is addressed as follows:

- (1) All IDNs are case-folded for look-up. Since there is no case in Old Lisu, case-folding will yield the same string whereas Latin characters will be converted to lower case. This easily distinguishes a Old Lisu letter from a Latin one.
- (2) There is no established standard regarding how IDNs should be implemented. Each domain controller sets his own rules for his domain and there is no clear definition of what spoofing is. If any domain controller sees a problem with Old Lisu characters, he can forbid mixing them with Latin or simply ban them in his domain altogether. After all, the only domain controllers that may consider allowing Old Lisu characters in domain names would probably be China, and possibly but unlikely also Myanmar, Thailand and India, and even for these nations a need for Old Lisu IDNs is not anticipated.
- (3) Unification aims at avoiding visual confusion, but as mentioned at the end of Section 3. Alphabet. (page 3), it would actually create non-existent characters that are intolerably confusing with existing characters. This would allow for spoofing that is more problematic than what unification tries to avoid in the first place.

As seen from the above, encoding Old Lisu characters separately is a far better approach than unification, which would only make things worse.

## 12. Unicode Character Properties. All letters in the alphabet have a general category of Lo.

A4D0;OLD LISU LETTER BA;Lo;0;L;;;;;N;;;;;  
A4D1;OLD LISU LETTER PA;Lo;0;L;;;;;N;;;;;  
A4D2;OLD LISU LETTER PHA;Lo;0;L;;;;;N;;;;;  
A4D3;OLD LISU LETTER DA;Lo;0;L;;;;;N;;;;;  
A4D4;OLD LISU LETTER TA;Lo;0;L;;;;;N;;;;;  
A4D5;OLD LISU LETTER THA;Lo;0;L;;;;;N;;;;;  
A4D6;OLD LISU LETTER GA;Lo;0;L;;;;;N;;;;;  
A4D7;OLD LISU LETTER KA;Lo;0;L;;;;;N;;;;;  
A4D8;OLD LISU LETTER KHA;Lo;0;L;;;;;N;;;;;  
A4D9;OLD LISU LETTER JA;Lo;0;L;;;;;N;;;;;  
A4DA;OLD LISU LETTER CA;Lo;0;L;;;;;N;;;;;  
A4DB;OLD LISU LETTER CHA;Lo;0;L;;;;;N;;;;;  
A4DC;OLD LISU LETTER DZA;Lo;0;L;;;;;N;;;;;  
A4DD;OLD LISU LETTER TSA;Lo;0;L;;;;;N;;;;;  
A4DE;OLD LISU LETTER TSHA;Lo;0;L;;;;;N;;;;;  
A4DF;OLD LISU LETTER MA;Lo;0;L;;;;;N;;;;;  
A4E0;OLD LISU LETTER NA;Lo;0;L;;;;;N;;;;;  
A4E1;OLD LISU LETTER LA;Lo;0;L;;;;;N;;;;;  
A4E2;OLD LISU LETTER SA;Lo;0;L;;;;;N;;;;;  
A4E3;OLD LISU LETTER ZHA;Lo;0;L;;;;;N;;;;;  
A4E4;OLD LISU LETTER ZA;Lo;0;L;;;;;N;;;;;  
A4E5;OLD LISU LETTER NGA;Lo;0;L;;;;;N;;;;;  
A4E6;OLD LISU LETTER HA;Lo;0;L;;;;;N;;;;;  
A4E7;OLD LISU LETTER XA;Lo;0;L;;;;;N;;;;;  
A4E8;OLD LISU LETTER HHA;Lo;0;L;;;;;N;;;;;  
A4E9;OLD LISU LETTER FA;Lo;0;L;;;;;N;;;;;  
A4EA;OLD LISU LETTER WA;Lo;0;L;;;;;N;;;;;  
A4EB;OLD LISU LETTER SHA;Lo;0;L;;;;;N;;;;;  
A4EC;OLD LISU LETTER YA;Lo;0;L;;;;;N;;;;;  
A4ED;OLD LISU LETTER GHA;Lo;0;L;;;;;N;;;;;  
A4EE;OLD LISU LETTER A;Lo;0;L;;;;;N;;;;;  
A4EF;OLD LISU LETTER AE;Lo;0;L;;;;;N;;;;;  
A4F0;OLD LISU LETTER E;Lo;0;L;;;;;N;;;;;  
A4F1;OLD LISU LETTER EU;Lo;0;L;;;;;N;;;;;  
A4F2;OLD LISU LETTER I;Lo;0;L;;;;;N;;;;;  
A4F3;OLD LISU LETTER O;Lo;0;L;;;;;N;;;;;  
A4F4;OLD LISU LETTER U;Lo;0;L;;;;;N;;;;;  
A4F5;OLD LISU LETTER UE;Lo;0;L;;;;;N;;;;;  
A4F6;OLD LISU LETTER UH;Lo;0;L;;;;;N;;;;;  
A4F7;OLD LISU LETTER OE;Lo;0;L;;;;;N;;;;;  
A4F8;OLD LISU LETTER TONE MYA TI;Lm;0;L;;;;;N;;;;;  
A4F9;OLD LISU LETTER TONE NA PO;Lm;0;L;;;;;N;;;;;  
A4FA;OLD LISU LETTER TONE MYA NA;Lm;0;L;;;;;N;;;;;  
A4FB;OLD LISU LETTER TONE MYA JEU;Lm;0;L;;;;;N;;;;;  
A4FC;OLD LISU LETTER A GLIDE;Lm;0;L;;;;;N;;;;;  
A4FD;OLD LISU LETTER NASALISATION MARK;Lm;0;L;;;;;N;;;;;  
A4FE;OLD LISU PUNCTUATION COMMA;Po;0;L;;;;;N;;;;;  
A4FF;OLD LISU PUNCTUATION FULL STOP;Po;0;L;;;;;N;;;;;

**13. Code Chart.** A code chart is given on page 9. The encoding order is adapted from Everson (2006) with positions U+A4EA..A4ED and U+A4FA..A4FD mapped differently to reflect the collating order proposed in Section 10. Collating Order.<sup>2</sup> Everson (2006) also maps position U+A4FE to PUNCTUATION COMMA but with a missing dot, which he believes is a quite possible error. For the most part, character names are taken from Everson (2006) and adjusted to follow the guidelines set forth in Annex L of ISO/IEC 10646:2003. Certain vowels are named differently to better reflect their phonetic values. Tone letters are given their Lisu names instead of numbers (rf. Section 4. Tone Letters.)

<sup>2</sup> It should be pointed out that collating order and encoding order do not dictate one another (see TUS 5.0 section 2.1, p.12 and section 5.16, p.179), but for convenience it is common practice to encode characters after a consistent collating order.

## 14. Bibliography

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TABLE XX - Row A4: OLD LISU

	A4D	A4E	A4F
0	B	N	E
1	P	L	E
2	P	S	I
3	D	R	O
4	T	R	U
5	T	V	U
6	G	V	L
7	K	H	D
8	K	G	.
9	J	J	,
A	C	W	;
B	C	X	:
C	Z	Y	-
D	F	B	,
E	F	A	-.
F	M	A	=

TABLE XX - Row A4: OLD LISU

hex	Name	hex	Name
D0	OLD LISU LETTER BA		
D1	OLD LISU LETTER PA		
D2	OLD LISU LETTER PHA		
D3	OLD LISU LETTER DA		
D4	OLD LISU LETTER TA		
D5	OLD LISU LETTER THA		
D6	OLD LISU LETTER GA		
D7	OLD LISU LETTER KA		
D8	OLD LISU LETTER KHA		
D9	OLD LISU LETTER JA		
DA	OLD LISU LETTER CA		
DB	OLD LISU LETTER CHA		
DC	OLD LISU LETTER DZA		
DD	OLD LISU LETTER TSA		
DE	OLD LISU LETTER TSHA		
DF	OLD LISU LETTER MA		
E0	OLD LISU LETTER NA		
E1	OLD LISU LETTER LA		
E2	OLD LISU LETTER SA		
E3	OLD LISU LETTER ZHA		
E4	OLD LISU LETTER ZA		
E5	OLD LISU LETTER NGA		
E6	OLD LISU LETTER HA		
E7	OLD LISU LETTER XA		
E8	OLD LISU LETTER HHA		
E9	OLD LISU LETTER FA		
EA	OLD LISU LETTER WA		
EB	OLD LISU LETTER SHA		
EC	OLD LISU LETTER YA		
ED	OLD LISU LETTER GHA		
EE	OLD LISU LETTER A		
EF	OLD LISU LETTER AE		
F0	OLD LISU LETTER E		
F1	OLD LISU LETTER EU		
F2	OLD LISU LETTER I		
F3	OLD LISU LETTER O		
F4	OLD LISU LETTER U		
F5	OLD LISU LETTER UE		
F6	OLD LISU LETTER UH		
F7	OLD LISU LETTER OE		
F8	OLD LISU LETTER TONE MYA TI		
F9	OLD LISU LETTER TONE NA PO		
FA	OLD LISU LETTER TONE MYA NA		
FB	OLD LISU LETTER TONE MYA JEU		
FC	OLD LISU LETTER A GLIDE		
FD	OLD LISU LETTER NASALISATION MARK		
FE	OLD LISU PUNCTUATION COMMA		
FF	OLD LISU PUNCTUATION FULL STOP		

# Figures

1:1 1:18

**YI CE YI WU LO 7**

1

MU KW MI NY TV CE;\_ M

1,2 YI CE YI WU KW WU-S LE MU KW\_ BE MI NY TV CE;\_ LO = \* MI NY NY YI PE,  
M: JO M YI GO: A S\_ NY ɗi, M NY NY\_ M YI JY ɗV SI KW D\_ LO = WU-S V\_,  
NY YI JY ɗV SI KW A' TY\_ LO =

YI WU ɗI NYI KW NYI MO DU JO L FI\_ M

3 WU-S LE -- NYI MO DU JO, L FI -- BV\_ LO = GO Lɛ NY NYI MO DU JO L\_  
4 LO = \* NYI MO DU NY JI, M A LO -- BE -- WU-S MO Kɔ NY -- WU-S LE NYI  
5 MO DU\_ BE NY ɗi, M TV Bɛ, Kɔ\_ LO = \* WU-S LE NYI MO DU TV NY MO; LO, --  
BE -- MYɛ G7 SI -- NY ɗi, M TV NY YI LE -- S XW \_ BE -- MYɛ G7\_ LO = GO  
Lɛ NYI ME, FI\_ NY; FI JO SI -- YI WU. ɗI NYI A LO =

K NY ɗI NYI KW Mɔ: WU: TV XY, \_ M

6 WU-S LE -- YI JY Kɔ LO KW Mɔ: WU JO, FI = GO Lɛ SI Mɔ WU GO M LE YI  
7 JY\_ BE YI JY TV Bɛ, Kɔ FI -- BV\_ LO = \* GO Lɛ SI WU-S LE Mɔ WU XY, SI --  
Mɔ WU NY. XW M YI JY\_ BE -- Mɔ WU ɗV SI M YI JY TV Bɛ, Kɔ NY YI GO Lɛ  
8 ɗYɛ; L\_ LO = \* WU-S LE Mɔ WU GO M TV -- MU KW -- BE -- MYɛ G7 LO =  
GO Lɛ NYI ME, FI\_ NY; FI JO SI -- NYI: NYI ɗI NYI A LO =

S NYI ɗI NYI KW MI ɔU DO L SI -- Z Xɔ Z JE: R\_ L\_ M

9 WU-S LE -- MU KW NY. XW KW M YI JY TV ɗI W.; ZI; LE FI SI MI ɔU.. TV DO  
10 L FI -- BV\_ LO = GO Lɛ NY YI GO Lɛ ɗYɛ; L\_ LO = \* WU-S LE MI ɔU TV --  
MI NY -- BE -- MYɛ G7 SI -- ɗI W.;\_ BE ZI; ɗ\_ M YI JY TV NY YI LE -- YI,  
LU Bɛ -- BE -- MYɛ G7\_ LO = GO M NY JI, M A LO -- BE -- WU-S LO. MO, \_  
11 LO = \* WU-S LE -- MI NY TV NY MO; ɔ Xɔ. ɔ\_ BE YI Xɔ. Dɛ;\_ M WO: Xɔ:  
WO: JE:\_ BE -- YI Xɔ. ɗɛ, ɗ\_ M S7, S7: Dɛ;\_ M SI, ZI LO ZI, JE: Xɔ JE ɔO SI  
12 MI NY KW Rɛ, L FI -- BV\_ LO = GO Lɛ NY YI GO Lɛ ɗYɛ; L\_ LO = \* GO Lɛ NY  
MI NY KW MO; ɔ Xɔ. ɔ\_ BE -- JE: Xɔ JE ɔO SI YI Xɔ. Dɛ;\_ M WO Xɔ WO JE\_  
BE -- JE Xɔ JE ɔO SI YI Xɔ. ɗɛ, ɗ\_ M S7, S7: Dɛ;\_ M SI, ZI LO ZI Rɛ L\_ LO =  
13 GO M NY JI\_ M A LO -- BE -- WU-S LO. MO\_ LO = \* GO Lɛ NYI ME, FI NY;  
FI JO SI -- S NYI ɗI NYI A LO =

LI NYI ɗI NYI KW MI: MI V B KU ɔ XY, \_ M

14 WU-S LE -- MO LO\_ BE S XW TY Bɛ, N, M MU KW KW M Mɔ WU KW RO.. DU  
B.. DU JO FI = RO.. DU B.. DU GO M NY Sɔ LE DU YE N, M\_ BE -- YI FI\_ BE --  
15 YY; NYI\_ BE -- Xɔ; TY Bɛ, Kɔ N, M ɗYɛ; L FI -- \* GO M NY MI NY ɗV SI KW  
RO.. G7 L N, M\_ MI MU KW KW M Mɔ WU KW RO.. DU B.. DU ɗYɛ; L FI -- BV\_  
16 LO = GO Lɛ NY YI GO Lɛ ɗYɛ; L\_ LO = \* GO Lɛ SI WU-S LE RO DU B DU D: M  
NYI: M XY\_ LO = RO DU B DU WU: ɗI M M NY MO LO TV Jɔ: LO = RO\_ ɗI M M  
17-18 NY S XW TV Jɔ\_ LO = KU ɔ\_ MI XY\_ LO = \* GO Lɛ SI MI NY TV RO.. G7 N, M\_

1:1. YO 1:1,3. VI 1:10. BE 3:24. S 4:124. RO 1:20. KO 1:16. VI 1:13 MO 4:11.  
1:2. YE 4:23. S 4:13,14. 1:3. GW 3:9. 1:5. GW 74:16. 1:6. BE 37:18. GW 33:6, 136:5. YE 10:12.  
1:9. BE 26:10, 38:8. GW 33:7, 55:8. 1:11. VI 6:7. LU 6:44.  
1:14. ɔO 4:19. BE 25:3,5. GW 74:16, 136:7. 1:17. GW 8:1.

1

Figure 1: Sample from a 1968 Lisu Bible (Genesis 1:1-17), showing examples of LETTER NASALISATION MARK and \_ LETTER A GLIDE. The vertical position of the latter is contrasted with that of the underlining.

GO L3 NYI NU W W: XU\_ NY I3 L3 BV -- MU KW IV SI KW TY\_ M AW NU: B,  
 B:O -- NU MYE.. SI XY\_ M TV dO: TY FI = \* NU KUD DO L FI = MU KW IV SI  
 KW NU NI, L7: dY3; L\_ M\_ LE BE -- MI NY KW\_ MI dY3; L FI = \* II NYI LE II  
 NYI AW NU: R3: YV;\_ M Z: DU -- NYI. NYI AW NU: TV G7 Z: LV = \* AW NU: TV  
 CY., L SU TV AW NU: G: G7\_ M\_ LE BE -- NU LE AW NU CY., KQ M G: G7 L\_ =  
 8, NYI\_ M KW AW NU: TV I: HO: DQ JE -- A7\_ M KW BE N: AW NU: TV CYU DO  
 G7 LV = A LIO BV NY KUD;\_ BE W: NYI\_ M\_ BE MY3 DO: NY -- II JI; II P NU  
 TV M A LQ -- BE -- BV NY\_ LO = \* A LIO BV NY SU CY., KQ M TV NU W: G:  
 G7\_ IV N: -- MU KW IV SI KW M NU W B, B\_ MI NU W CY KQ M G G7 L\_ AO =  
 SU CY KQ M TV NU W M: G G7 IV N: -- NU W B, B\_ MI NU W CY KQ M TV M: G  
 G7 L., =

Figure 2: Sample from a Lisu Bible (Matthew 6:9-12), showing - PUNCTUATION COMMA and = PUNCTUATION FULL STOP.

D7: LV X0\_ M

146 (S.S.S. 706)

ONWARD, CHRISTIAN SOLDIERS

F 4/4 -- 1

(LI ON)

	5- 5- 5- 5-   5- 6 5- - -   2- 2- 1- 2-		
	3- 3- 3- 3-   4- - - 4- - -   7- 7- 6- 7-		
(1)	JI- SU MV; H NU W:- MI IV SI JE		
(2)	HW. LE_ M SQ. DU TV- S.- DV; LO. MO_		
(3)	JI- SU XU ZI; JO NY- MV; ZU_ LE BE		
(4)	W: NYI SU RO, LE D- KUD; MI BY., LE		
(5)	MI NV L JO NU W:- AW NU: TV JO		
	1- 3- 5- 1'-   1'- - - 7- - -   5- 5- 5- 5-		
	1- 1- 1- 1-   2- - - 5- - -   4- 4- 3- 2-		

  

	3- - - - -   1- 3- 5- 1'-   1'- - - 7- - -   6- 6-		
	1- - - - -   1- 1- 1- 1-   2- - - 2- - -   1- 1-		
(1)	D:= YE- SU RO MV; SI: d: RO TV		
(2)	IV- YI. JO.. SI OE, JE_ AV_ A. MI.		
(3)	K,= RO XE: M J GU NY- WU- S		
(4)	AO= JI- SU XU., ZI; JO N_ II: JI;		
(5)	LV= YE- SU TV XE. G7: M- II JO_		
	5- - - - -   5- 5- 5- 5-   5- 6 5- - -   0- 0-		
	1- - - - -   3- 3- 3- 3-   2- - - 2- - -   2- 2-		

  

	3- 0-   5- - - - -   2- 2- 5- 2-   3- 4 3- - -		
	1- 1-   7- - - - -   7- 7- 2- 7-   1- 2 1- - -		
(1)	HO JE L= JI: JI; W TI. R3: SU-		
(2)	G; NV, LO= XE. G7 SV; P J_ IV-		
(3)	J GU A.,= JI NI, M LE; RE_ LO-		
(4)	FE.. T. AO= CY; MN WO, NYI BN., NYI-		
(5)	BE GW LV= EY DO: BE W: NYI M-		
	5- 6-   5- - - - -   5- 5- 5- 5-   5- - - 5- - -		
	2- 2-   5- - - - -   5- 5- 7- 5-   1- - - 1- - -		

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Figure 3: Sample from a Lisu hymn book, showing another rendering of - PUNCTUATION COMMA.

1; DO: XE, DO: LI PCN SO, M NYI PU, LI PU, M =

CYU SI, d: YE-SU MI NV KW MYH: YE KU, M =

YE-SU MYE: YE WU, TU, M = ( 6, 8 V NV, ; KW ) A. D. 27 XO; =

1. YU-T MŌ: KW YI, MYH YE KU, M =

21 JE-RU-S-LE KW

B. YE-SU LE SI XY VI TV SI XY LE FI, M = YO 2:13-22; 2:13 GO LV YU-T  
L JO VI-XO-PAI: NI: L NYI- YE-SU NY JE-RU-S-LE KW DV JE LO =

YE-SU BE YI, LI VI L JO BU NY- YI GO LV, BU BE LI W,; N-S-

LE KW BE X-RE-LO DE KW CI, DO L SI- DO KW LI P, H: TY LV: VI-

XO-PAI: LE M NY- YU-T L JO BU BE T PAI D: M LI M A, NYI- YU-T L

EO NY YI W K XŌ KW 12 XO; LV: SI M H P H: NY VI-XO-PAI KW M: JE

M D M YI, LI: JO, LO = A XŌ: WU, NYI BV, NY- YI-SC-LE L JO NY YI

JI; MŌ; KW CO P, YE, M KW BE WU-S LE CYU, J KI M TV DŌ: J OI L N

M PAI: A, LO =

GO M LV SI YI-JI MŌ: TV MO WU-S LE BV MU XI: M KW BE YI, W LI,

JE KU, M TV A, MI DŌ: J OI L N, M PAI: D: M A, LO = DO 12 LI BE

13 LI KW JO, LO = 12:11-14 FI KW Ō, NYI LV VI-XO-PAI: A XŌ: A, M

SO, LE, AO =

Figure 4: Sample from a Lisu Bible study resource, showing a third rendering of -. PUNCTUATION COMMA.

R: KŌ:

MŌ: SU KŌ: N:: N: KDO M::

NĒ LE: J N:: T. GŌ M:

LE, M LV: SI, R: SU KŌ:

LE, M LV: SI, NĒ LE: J

R: TI, LI: HW, SI; JY, Ō,

R: RO LI: HW, NI, CŌ; Ō,

SU LE, Ō, KU, LI: BV GŌ:

LE: LE, Ō, SO, LI: DE: GŌ:

KŌ: M: KŌ, MI SI; JY R:

J M: SO, MI NI, CŌ; NĒ

NI, ME LE, LI: NYI, M LE

NYI, VY; LE, LI: VY; M N:

NI, ME YI; MY XŌ, LE BE

NYI, VY; WU, DŌ: Ō, LE BE

YI; MY XŌ, LE P J, LV:

WU, DŌ: Ō, LE DO: J, LV:

WO, d: LI: Ō, NŌ, A, BV:

WU, DŌ: Ō, LE DO: J, LV:

A: NYI, Ō: NŌ, P J: LEO

A WŌ ZI, NŌ, DO: J: LEO

Z, GW: Z, C. WU: T. BV:

WO: NYE, WO: TO MU T. BV:

A: NYI, Ō: BV, CĒ, Ō, LV:

A WŌ ZI, DE: Ō, Ō, LV:

A: Ō: CĒ, KW Ō: BV, BD,

P M Ō; KW ZI, DE: BD,

CĒ M: A, BE R: M: BV

PE; M: A, BE NĒ M: DE:

A: NYI, TV Ō WU: T: MI

A WŌ BO Ō MU T: MI

A: NYI, Ō BV, J: LI: X.

A: WŌ ZI, DE: J: LI: TO

A: NYI, Ō: NŌ, Ō: BŌ, CŌ,

A WŌ ZI, DE: ZI, TI CŌ,

NŌ, LE: R: CŌ, LI: G: CŌ,

NŌ, LE: NĒ B, LI: G: CŌ,

NĒ B, NV, BE GO; RU, GŌ

Ō. B: K KŌ: MŌ: XŌ, KŌ

Y B: DĒ: LO, PŌ. YV; GŌ

KŌ. KŌ LI: Ō: NŌ, Ō: JO:

M L: LI: ZI, NŌ, Ō: JO:

KŌ. KŌ YI. BV, LE, LE BVŌ

M L: YI. DE: LE, LE DE: O

A: NYI, VŌ, M S: NYI, JO:

A WŌ TV, M S VY; JO:

S: NYI, VŌ, KŌ M: WU: L,

S VY; TV, GŌ M: MU L,

A: NYI, TV Ō LI: G: JO:

A WŌ BO Ō LI: G: JO:

TV Ō LI: G: M: WU: JO:

BO Ō LI: G: M: MU JO:

S: NYI, GŌ, PŌ. KŌ. KŌ VŌ,

S VY; GŌ, PŌ. M L: TV,

KŌ. KŌ M: VŌ, M: WU: JO:

M L: M: TV, M: MU JO:

Figure 5: Samples from a Lisu song book, showing various combination tones.

<p>LI-SU IO T YI. M.. FO,          傣傣文声母</p> <p>B P d D T L G K          K J C C Z F F M          N L S R R A V H          G Γ W X Y</p> <hr/> <p>LI-SU IO T YI. R: FO,          傣傣文韵母</p> <p>A V E E I O U U          L D B</p>	<p>LI-SU IO T YI. SV;          傣傣文声调</p> <p>TO, DU          符 号</p> <ul style="list-style-type: none"> <li>• MY.. TI. 高平调55</li> <li>, N. PO.. 中升调35</li> <li>.. MY.. CY. 次高平调44</li> <li>., MY.. BO.. 中平调33</li> <li>: MY.. JE., 中降调31</li> <li>; MY.. N. 次高降调42</li> </ul>
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Figure 6: Samples from a Lisu-Chinese dictionary, showing an alphabetical order (left) with tone names in the traditional order (right).

YI. M.. FO,

B	P	d	D	T	L
G	K	K	J	C	C
Z	F	F	M	N	L
S	R	R	A	V	H
G	Γ	W	X	Y	

---

YI. R: FO,

A	V	E	E	I	O
U	U	L	D	B	

- 1 -

Figure 7: Sample from a Lisu primer, showing the same alphabetical order.

vi	<i>Southern Lisu Dictionary</i>	
S	s	246
R	ʒ	260
ʁ	z	260
Λ	ŋ	266
V	ɦ	271
H	x	279
Ə	h	287
ɾ	f	288
W	w	292
X	ʃ	305
Y	j	315
A	ʔ	322
ʋ	æ	340
E	e	340
Ə	ø	341
I	i	341
O	o	342
U	u	343
Ŋ	y	343
ɿ	ɥw	343
ɔ	ɥʋ	345
ʁ	ɣ	346

B	P	ɸ	D	T	ɿ	G	K	ʁ	J	C	ɔ	Z	F	ɸ	M	N	L	S
b	p	p <sup>h</sup>	d	t	t <sup>h</sup>	g	k	k <sup>h</sup>	dz	tʂ	tʂ <sup>h</sup>	dz	ts	ts <sup>h</sup>	m	n	l	s
R	ʁ	Λ	V	H	Ə	ɾ	W	X	Y									
ʒ	z	ŋ	ɦ	x	h	f	w	ʃ	j									

The northeastern Central Lisu syllables with retroflex initials /dz tʂ tʂ<sup>h</sup> ʒ/ before /a/ are written with the single consonants J C ɔ R X, while the syllables with alveopalatal initials /dz tʂ tʂ<sup>h</sup> c/ before /a/ are written with digraphs ɣ CY ɔY XY as discussed above. This contrast is absent from Southern Lisu and many subvarieties of Central Lisu, operates differently in Northern Lisu, and causes confusion for most learners of Lisu writing.

The vowels and the velar voiced fricative are:

A	ʋ	E	Ə	I	O	U	Ŋ	ɿ	ɔ	B
a	æ	e	ø	i	o	u	y	ɥw	ɣ	ɣ

Most Lisu people think of A as a vowel, but it could also be regarded as an initial glottal stop automatically followed by the inherent vowel /a/.

The alphabetical order of the six tones, and their numbering in Fraser (1922), is:

orthography	.	,	ˊ	ˋ	ː	ˑ
pitch	55	35	33	33	21	21
Fraser (1922)	1	2	3	4	5	6

**Figure 8: Samples from a Lisu-English dictionary, showing the same alphabetical order (circled) and a corresponding look-up order (top; only second part shown). The traditional tone order is also listed (bottom).**

M I MI LO 7

LISU CATECHISM AND HYMN BOOK

1 2 3 4 5 6 7 8 9 10 100 1000 1000

B P P D T I G K K J C C Z F J  
M N L S R R A V H G W X Y J  
A V E E I O U U L D B  
, . : ; - =

WU- S

1. MI NV IV SI JO M A I PO-. A M LE CE; T. LO..:=(  
WU- S LE CE; T. LO=
2. WU- S LE CE T. M A NY-. NI: GU SI GU M-. OY KD L-. M: OY KD L..:=  
NI: GU SI GU M-. A XT OY KD L. LO=
3. A LI BE SI OY KD L. LO..:=  
NI: NY-. RO TV CE; SU M: A NYI-. OY KD L. LO=
4. GO LE NY-. RO TV CE SU A M A LO..:=  
RO TV CE SU NY-. RO B, B WU- S A LO=
5. WU- S NY-. A M A LO..:=  
WU- S NY-. LI HI M: LU M: BY LE-. YI CE.. YI WU. M: JO= LI HI  
LE YI GO LE JO TY M A LO=
6. WU- S M-. WU- S d: BV D. L..:=  
WU- S M-. WU- S d: BY M: D=

Figure 9: Sample from a Lisu catechism, showing an alphabetical order with a different placement of ɸ LETTER FA (top). Note the use of a tone sequence to signal a question (circled).



3. 声调 六个声调是用标点符号来表示的。例如：

- 句点表示高平调 1<sup>55</sup>, LO.[lo] 放牧
- , 逗点表示高升调 1<sup>35</sup>, LO, [lo] 溢出
- .. 两个平句点表示次高平调 1<sup>44</sup>, LO.. [lo] 投掷
- ., 句点逗点表示中平调 1<sup>33</sup>, LO., [lo] 轻
- ; 分号表示中降调 1<sup>42</sup>, LO; [lo] 够
- : 冒号表示低降调 1<sup>31</sup>, LO: [lo] (斤)两

Figure 10: Sample from a Chinese Lisu language journal listing the six tones. Note the switched order of the last two tones.

### 声调表

文 字 符 号	调 值	例 词		
		文 字	国际音标	汉 意
.	1 <sup>55</sup>	LO.	lo	(狗)叫
,	1 <sup>35</sup>	LO,	lo	过(去)
..	1 <sup>44</sup>	LO..	lo	扔
.,	1 <sup>33</sup>	LO.,	lo	轻
;	1 <sup>42</sup>	LO;	lo	够
:	1 <sup>31</sup>	LO:	lo	(斤)两

Figure 11: Sample from a Chinese minority script journal describing the Lisu tones. Note the switched order of the last two tones.

( 1 ) 8 M 7 . . K U M U : G W

1 . A : T I . ɖ

YO, YI; DAVAV YO, YI; DAV--  
 W LD, DAVAV W LD, DAV--  
 A: T I . ɖ B U ʌ W . , N U : N Y . . . .  
 A: R O 8 B U ʌ W . , N U : N Y . . . .  
 B, B O Y, S I . P ɛ . S I . N Y I . .  
 M, M . . M U : O U : D ɛ : S I . N Y I . .  
 S I , N V M . . K W . . H W H W . . J E . .  
 S : D ɛ : M . . K W . . B Y T ɛ , J E . .  
 G O N Y . . ɖ 7 . . ɔ ɛ : ɿ I : Z E M O W . . L E O . .  
 N Y , N I ɿ I : M . . L O . W . . L E O . .  
 N Y , N I G O M . . J E ; J O B 8 , . .  
 ɖ 7 . . ɔ ɛ : G O M . . ɔ ɛ . V Y ; B 8 , . .  
 L E ; L E ; B 7 T V . L O . K ɔ . . L E O . .  
 X Y , X Y , Z : T V . N Y I K ɔ . . L E O . .  
 B 7 ɖ X Y . ɿ M I Z ɛ ; J O B 8 , . .  
 J : M . . X Y . ɿ M I ɔ ɛ . V Y ; B 8 , . .  
 J E ; M J O M . . ʌ W . , N U : L E : . .  
 ɔ ɛ . M V Y ; M . . ʌ W . , N U : L E : . .  
 B E : L S I , S U : L U : ɿ L E B E . .

1

Figure 12: Sample from a Lisu song book.

(5)



Figure 13: Sample from a Lisu comic.

LK UP AB

«JE: LO. MO: GW: »LE LI: CE, M NY 1981 MO: 12  
 V 5-6 NYI KW LD: -OO(TD, -W: )XV, KU-YO:  
 XY KW M YI: -OY: -ST TV PAO-X., KW SV; X..  
 T M A LO= GO K. NV. XUI-MI KW YI, CI L LV:  
 SI..SV; X DU KW BE BO CI. T M A LO= GO LE  
 SI. MO: GW: GW d: YI: -OY: -ST. NY A MI M:  
 NY, AO=

«JE: LO. MO: GW: » LE LI: CE, M. MI; NY  
 A: LK. LI\_M A\_LO= MY: NYI NY R NE LE LI:  
 RO LI; RO LV: YI. JE: R A LI BE LO. M BE WU:  
 L NY YI MI: YE LU. YE AO GW T. \_M A LO= YI  
 BV KI: A MI A: KI N N, S\_LO=

MU GW LE LI CE, M NY LI-SU A LI FO JO\_  
 M BE VY: NYI A LI BE KO, TY, \_M TV GW DO L  
 \_M A LO=

MU GW LE LI CE, GW SU NY R EN R LI: RO  
 A SI. - YI P YI. M A MI JE: RO M VY NYI KW  
 NY JE LO. SU A LO= R EN R EN R LI: RO M IF  
 NYI: S MO: JO LV NY YI P YI M TV. CI F. LV; F  
 SI. NYI JE R G; SI W CI W B: LO KU LO M KW JE  
 LO. JE\_LO=

WU: L LV: NY YI. A MI FO TI LE BE MI YE  
 LU. YE\_LO= MO: GW: LE LI: CE, M NY YI: CE,

Figure 14: Sample from a Lisu song book preface.

**ISO/IEC JTC 1/SC 2/WG 2  
PROPOSAL SUMMARY FORM TO ACCOMPANY SUBMISSIONS  
FOR ADDITIONS TO THE REPERTOIRE OF ISO/IEC 10646<sup>3</sup>**

**Please fill all the sections A, B and C below.**

Please read Principles and Procedures Document (P & P) from <http://www.dkuug.dk/JTC1/SC2/WG2/docs/principles.html> for guidelines and details before filling this form.

Please ensure you are using the latest Form from <http://www.dkuug.dk/JTC1/SC2/WG2/docs/summaryform.html>.

See also <http://www.dkuug.dk/JTC1/SC2/WG2/docs/roadmaps.html> for latest Roadmaps.

**A. Administrative**

1. Title:	<b><i>Proposal for encoding the Old Lisu script in the BMP of the UCS</i></b>
2. Requester's name:	<i>China</i>
3. Requester type (Member body/Liaison/Individual contribution):	<i>Member body</i>
4. Submission date:	<i>2007-09-13</i>
5. Requester's reference (if applicable):	<i>CN/07-005R</i>
6. Choose one of the following:	
This is a complete proposal:	<input type="checkbox"/> <i>Yes</i>
(or) More information will be provided later:	<input type="checkbox"/>

**B. Technical – General**

1. Choose one of the following:	
a. This proposal is for a new script (set of characters):	<input type="checkbox"/> <i>Yes</i>
Proposed name of script:	<i>Old Lisu</i>
b. The proposal is for addition of character(s) to an existing block:	<input type="checkbox"/>
Name of the existing block:	<input type="checkbox"/>
2. Number of characters in proposal:	<i>48</i>
3. Proposed category (select one from below - see section 2.2 of P&P document):	
A-Contemporary <input checked="" type="checkbox"/>	B.1-Specialized (small collection) <input type="checkbox"/>
B.2-Specialized (large collection) <input type="checkbox"/>	C-Major extinct <input type="checkbox"/>
D-Attested extinct <input type="checkbox"/>	E-Minor extinct <input type="checkbox"/>
F-Archaic Hieroglyphic or Ideographic <input type="checkbox"/>	G-Obscure or questionable usage symbols <input type="checkbox"/>
4. Is a repertoire including character names provided?	<input type="checkbox"/> <i>Yes</i>
a. If YES, are the names in accordance with the "character naming guidelines" in Annex L of P&P document?	<input type="checkbox"/> <i>Yes</i>
b. Are the character shapes attached in a legible form suitable for review?	<input type="checkbox"/> <i>Yes</i>
5. Who will provide the appropriate computerized font (ordered preference: True Type, or PostScript format) for publishing the standard?	<i>David Morse</i>
If available now, identify source(s) for the font (include address, e-mail, ftp-site, etc.) and indicate the tools used: <input type="checkbox"/>	
6. References:	
a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided?	<input type="checkbox"/> <i>Yes</i>
b. Are published examples of use (such as samples from newspapers, magazines, or other sources) of proposed characters attached?	<input type="checkbox"/> <i>Yes</i>
7. Special encoding issues:	
Does the proposal address other aspects of character data processing (if applicable) such as input, presentation, sorting, searching, indexing, transliteration etc. (if yes please enclose information)?	<input type="checkbox"/> <i>Yes</i>
<i>Addressed throughout proposal.</i>	

8. Additional Information:

Submitters are invited to provide any additional information about Properties of the proposed Character(s) or Script that will assist in correct understanding of and correct linguistic processing of the proposed character(s) or script. Examples of such properties are: Casing information, Numeric information, Currency information, Display behaviour information such as line breaks, widths etc., Combining behaviour, Spacing behaviour, Directional behaviour, Default Collation behaviour, relevance in Mark Up contexts, Compatibility equivalence and other Unicode normalization related information. See the Unicode standard at <http://www.unicode.org> for such information on other scripts. Also see <http://www.unicode.org/Public/UNIDATA/UCD.html> and associated Unicode Technical Reports for information needed for consideration by the Unicode Technical Committee for inclusion in the Unicode Standard.

<sup>3</sup> \_ Form number: N3102-F (Original 1994-10-14; Revised 1995-01, 1995-04, 1996-04, 1996-08, 1999-03, 2001-05, 2001-09, 2003-11, 2005-01, 2005-09, 2005-10, 2007-03)

### C. Technical - Justification

1. Has this proposal for addition of character(s) been submitted before? If YES explain	No
2. Has contact been made to members of the user community (for example: National Body, user groups of the script or characters, other experts, etc.)? If YES, with whom? If YES, available relevant documents:	Yes <i>Yunnan Minority Language Commission, David Morse, David Bradley</i>
3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included? Reference:	Yes <i>See section 1. Introduction.</i>
4. The context of use for the proposed characters (type of use; common or rare) Reference:	Common <i>Scriptures, commentaries, dictionaries, hymn books, poetry, newspapers, magazines...</i>
5. Are the proposed characters in current use by the user community? If YES, where? Reference:	Yes <i>China, Myanmar, Thailand, India</i>
6. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP? If YES, is a rationale provided? If YES, reference:	Yes Yes <i>It is widely used among the Lisu communities, which number 1 million.</i>
7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)?	Yes
8. Can any of the proposed characters be considered a presentation form of an existing character or character sequence? If YES, is a rationale for its inclusion provided? If YES, reference:	No
9. Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters? If YES, is a rationale for its inclusion provided? If YES, reference:	No
10. Can any of the proposed character(s) be considered to be similar (in appearance or function) to an existing character? If YES, is a rationale for its inclusion provided? If YES, reference:	Yes Yes <i>Although some appear similar to Latin capital letters, this is a different script altogether with different behaviours. Hence, it would be best to encode them as a block.</i>
11. Does the proposal include use of combining characters and/or use of composite sequences? If YES, is a rationale for such use provided? If YES, reference: Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided? If YES, reference:	Yes Yes <i>Tone mya cya, tone mya jeu, as well as combination tones are encoded as sequences to avoid confusion with pre-composed forms.</i> Yes <i>See section 4. Tone Letters.</i>
12. Does the proposal contain characters with any special properties such as control function or similar semantics? If YES, describe in detail (include attachment if necessary)	No
13. Does the proposal contain any Ideographic compatibility character(s)? If YES, is the equivalent corresponding unified ideographic character(s) identified? If YES, reference:	No