

**AGREEMENT**  
**on frequency coordination of digital terrestrial television (DTT)**  
**in the frequency band 470-694 MHz**  
**between**  
**Administration of the Republic of Serbia and Administration of Hungary**

**Preamble**

**Article 1**

This document describes a bilateral coordination agreement between Administration of the Republic of Serbia and Administration of Hungary (hereinafter: Agreement). Furthermore, it expresses in particular the convergence of will between both parties, indicating an intended common course of action.

**Background**

**Article 2**

In relation with decisions of the WRC-15 about usage of radio frequency band 694-790 MHz (allocation of this band on co-primary base to the Broadcasting and the Mobile Service) following provisions of the Decision (EU) 2017/899 of the European Parliament and of the Council of 17 May 2017 on the use of the 470-790 MHz frequency band in the Union (hereinafter: Decision (EU) 2017/899), Administration of Serbia and Administration of Hungary decided to perform the re-planning of the frequency band 470-694 MHz in order to enable future use digital terrestrial television (hereinafter: DTT) networks and to facilitate the re-farming of the frequency band 694-790 MHz for terrestrial systems capable of providing wireless broadband electronic communications services.

Taking into account the different quantitative and qualitative requirements on the future DTT use in the frequency band 470-694 MHz, the equitable access to the frequency spectrum, the technical challenges, the possibility of harmful interference and other factors, Administration of Hungary and Administration of the Republic of Serbia decided to use commonly agreed principles as shall be presented in Multilateral Framework Agreement between the administrations of Albania, Austria, Bosnia and Herzegovina, Bulgaria, Croatia, Greece, Former Yugoslav Republic of Macedonia, Montenegro, Hungary, Romania, the Republic of Serbia, Slovenia, Turkey and Ukraine on the frequency plan for the future digital terrestrial television in the frequency band 470-694 MHz which shall be signed on 6th December 2017, in order to facilitate the re-planning process and achieve a compatible frequency plan between the concerned administrations within the defined geographical area.

## Objectives

### Article 3

Administration of Hungary and Administration of the Republic of Serbia successfully facilitated bilateral frequency coordination activities in order to implement the relevant broadcasting spectrum reallocation, with a view to:

- achieve mutual compatibility of the DTT spectrum resources to be used in the UHF band and avoid mutual harmful interference;
- facilitate any consequential modifications to the Geneva 2006 (hereinafter: GE06) Plan.

## Distribution of channels

### Article 4

With this agreement the Administrations of the Republic of Serbia and Hungary establish a frequency plan which is visualized in **Annex 1** and **Annex 2**. The **Annex 1** and **Annex 2** represent the areas and channel positions for Digital Terrestrial Television in the band 470 – 694 MHz.

## Technical parameters of assignments

### Article 5

Administration of Hungary and Administration of the Republic of Serbia agreed on the use of radio-frequencies for the new assignments not stemming from the GE 06 Plan given in **Annex 3** and **Annex 4** of this Agreement.

The detailed technical parameters for these assignments are recorded on a CD, one for each Administration, in electronic format (Terrasys notices) in the files:

- “**Srb\_new\_06112017.txt**“ for Administration of the Republic of Serbia
- “**HNG\_NEW\_ASSIGNMENTS\_6\_LAYER\_08112017.txt**“ for Administration of Hungary

given in the **Annex 5** (CD)

## ITU coordination and notification

### Article 6

The current GE06 frequency Plan will be updated by the Administrations according to the Article 4 of the GE06 Agreement and notification procedure based on this Agreement.

Administration of Hungary and Administration of the Republic of Serbia agree that they will not object the new assignments subject of the **Annex 3** and the **Annex 4** of this Agreement with the technical parameters recorded on the CD described in Article 5.

The withdrawal of the GE06 allotments and associated assignments from the GE06 Plan as it is on the date of signature in the 470-862 MHz band will be done according to Article 4 of the GE06 Agreement later considering the agreements with third administrations as well.

## **Transition period**

### **Article 7**

Noting that:

- the Republic of Serbia has not yet officially decided about the usage of the 694-790 MHz frequency bands for terrestrial systems capable of providing wireless broadband electronic communications services
- Hungary intends to use the 694-790 MHz band systems implemented in line with Commission Implementing Decision (EU) 2016/687 of 28 April 2016 on the harmonisation of the 694-790 MHz frequency band for terrestrial systems capable of providing wireless broadband electronic communications services and for flexible national use in the Union.

Parties should agree before 31 December 2019 on the starting and ending date of the transition period.

The new DTT assignments given in **Annex 3** and **Annex 4** of this Agreement can be implemented in the band 470-694 MHz when an agreement regarding the starting and ending date of the transition period will enter into force.

Administrations shall inform each other on the date of bring into use of assignments subject to this Agreement at least 2 (two) months before the respective station will be put into operation.

Administration of Hungary and Administration of the Republic of Serbia will contribute, with their best effort to conduct a smooth transition according to this Agreement, with the least possible adverse effects for the audience of DTT.

## **Revision of the Agreement**

### **Article 8**

An Administration cannot terminate or modify unilaterally from this Agreement.

All further future national developments in the frequency band 470 - 694 MHz will be done according Article 4 of the GE06 Agreement.

## Language of the Agreement

### Article 9

This Agreement exists in two original versions in English. Each Administration holds one original.

### Entry into force

### Article 10

This Agreement enters into force on the date when an agreement in accordance with Article 7 regarding the starting and ending date of the transition period will enter into force.

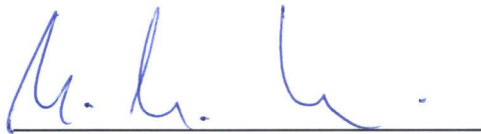
If there is no agreement according to the Article 7 this Agreement enters into force for signatory Administration only on the date when the 694-790 MHz band is released from DTT in the respective country.

Administrations shall inform each other on the date of switching off the broadcasting stations at least 2 (two) months before the stations in the 694-790 MHz band will finish the operation.

Place: Budapest, Hungary

Date: 05 December 2017

for the **Administration of Hungary**

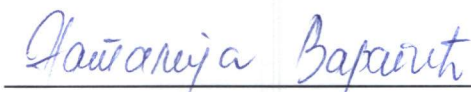


Maria KISSNE-AKLI PhD  
Head of Unit

for the **Administration of the  
Republic of Serbia**



Zoran Branković  
Head of Radiocommunication  
Department

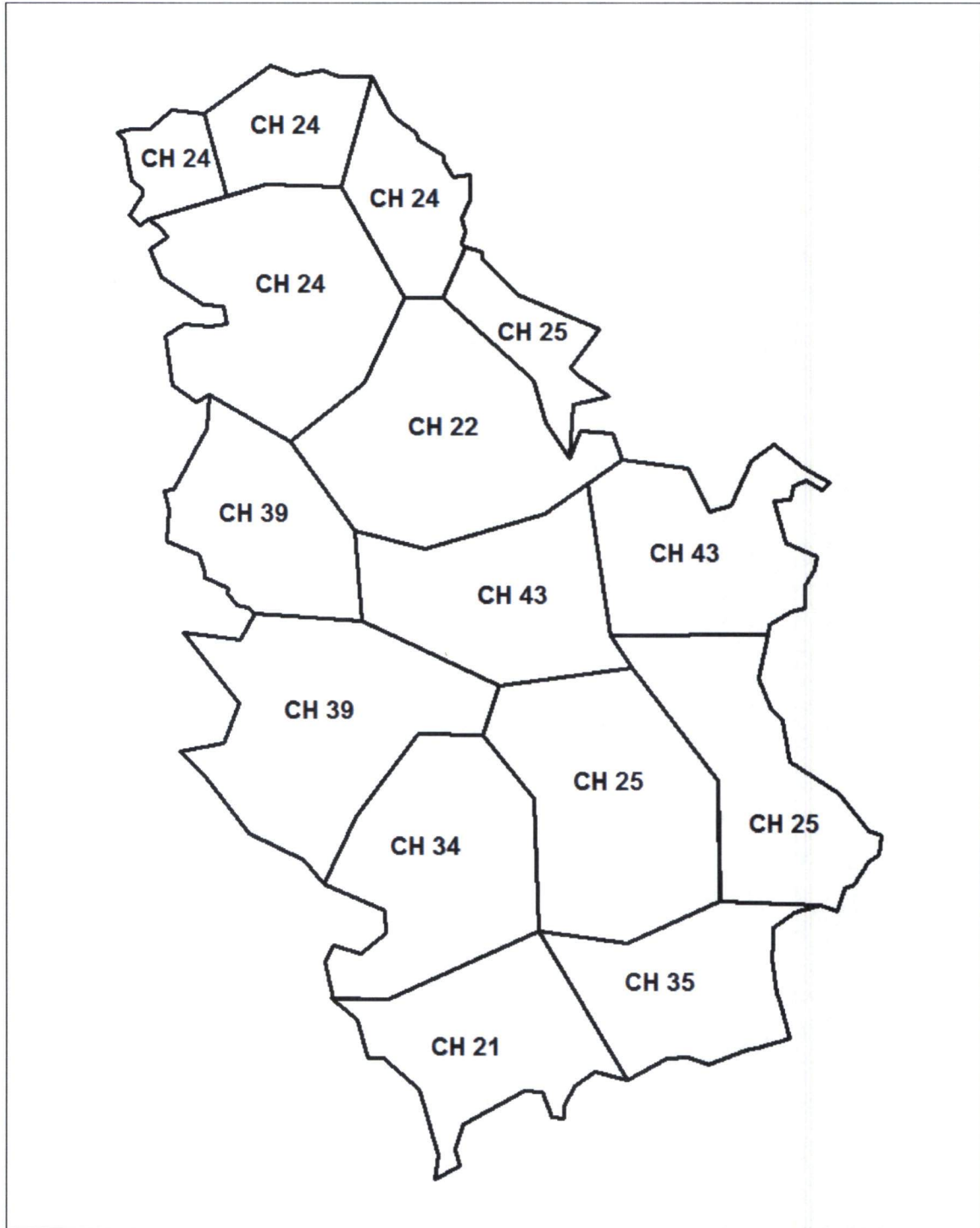


Natalija Varagić  
Group Coordinator

# Annex 1

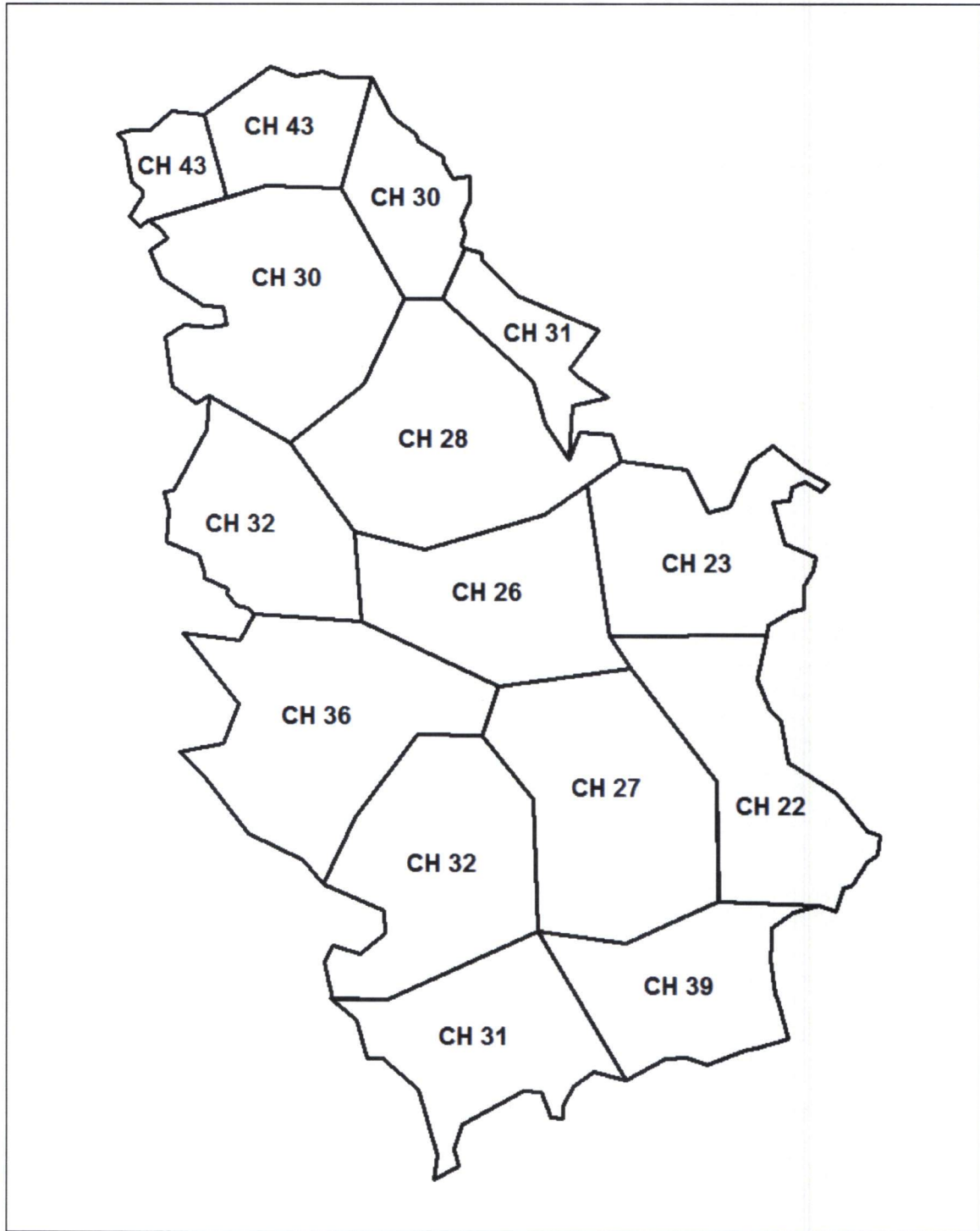
## Channel distribution of Administration of the Republic of Serbia

Layer 1



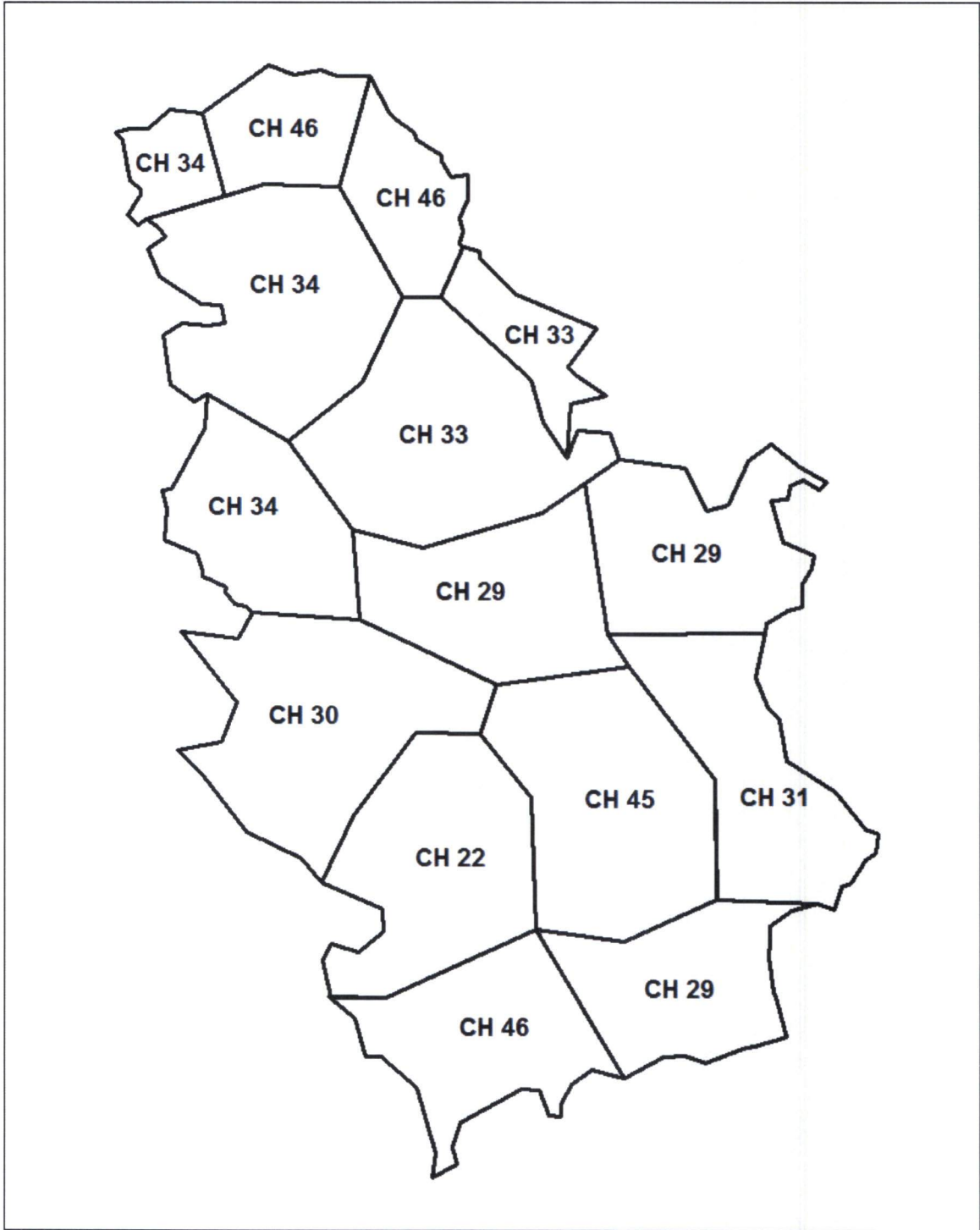
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Layer 2



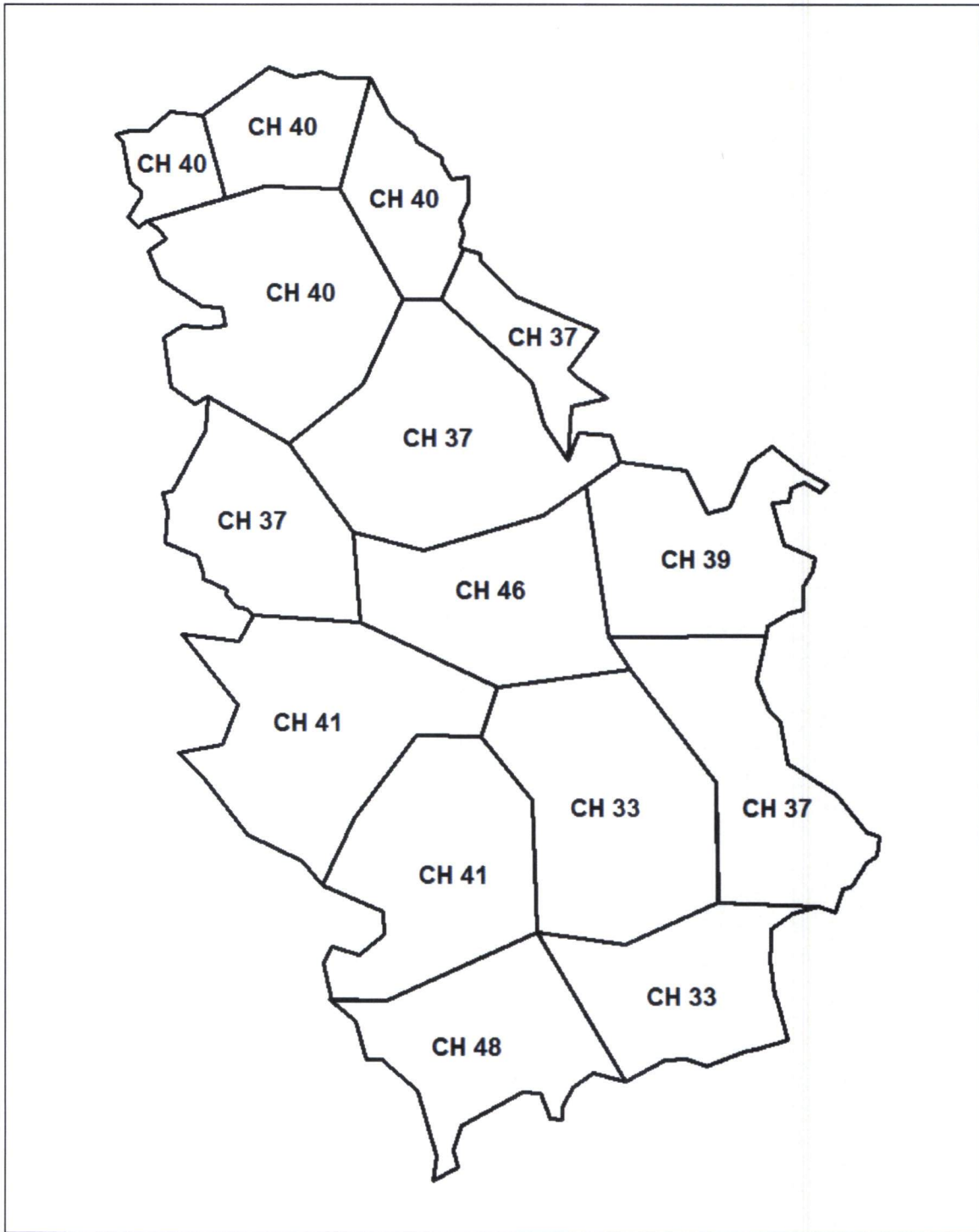
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Layer 3



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Tom Golt

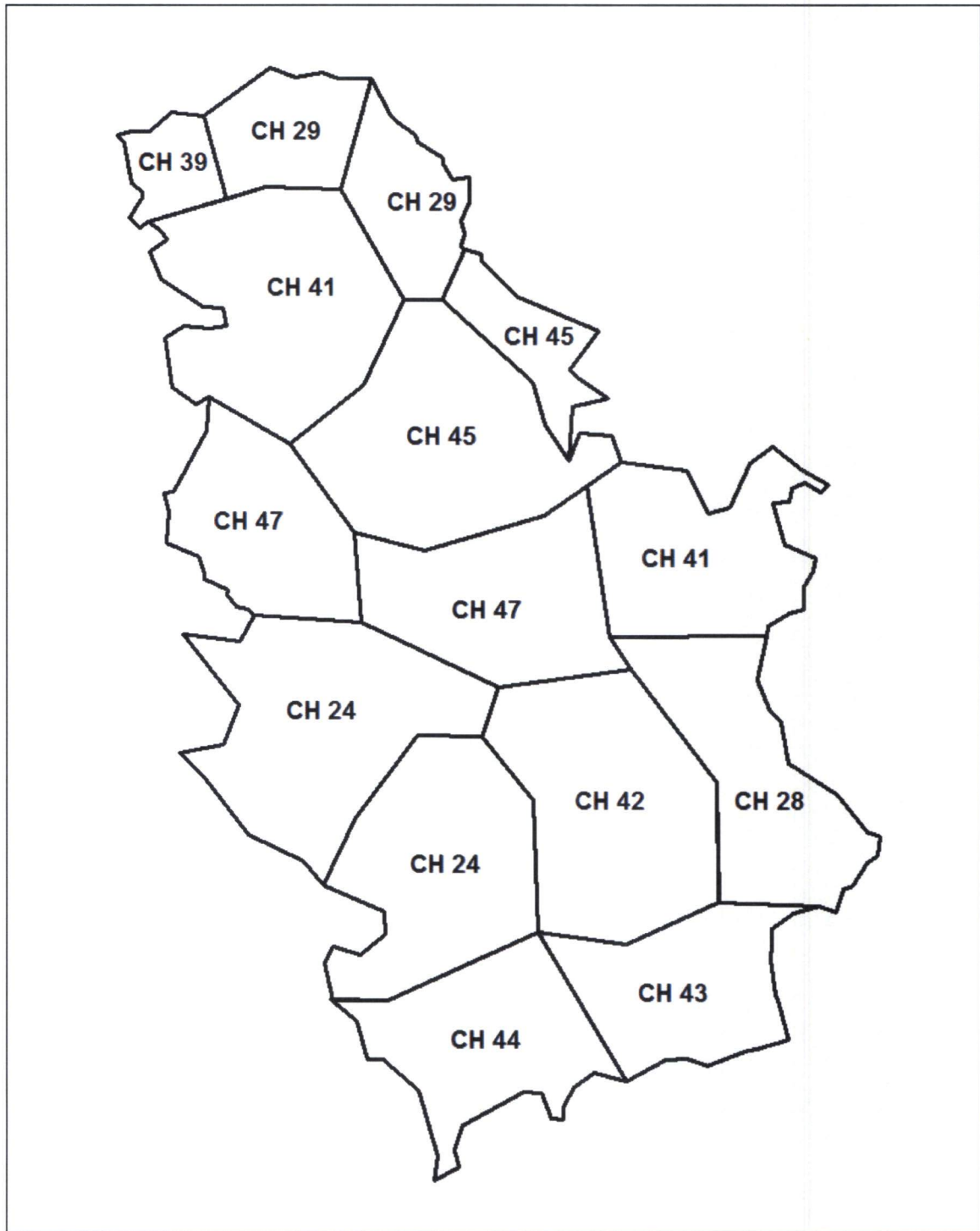
Layer 4



JB  
For Galt

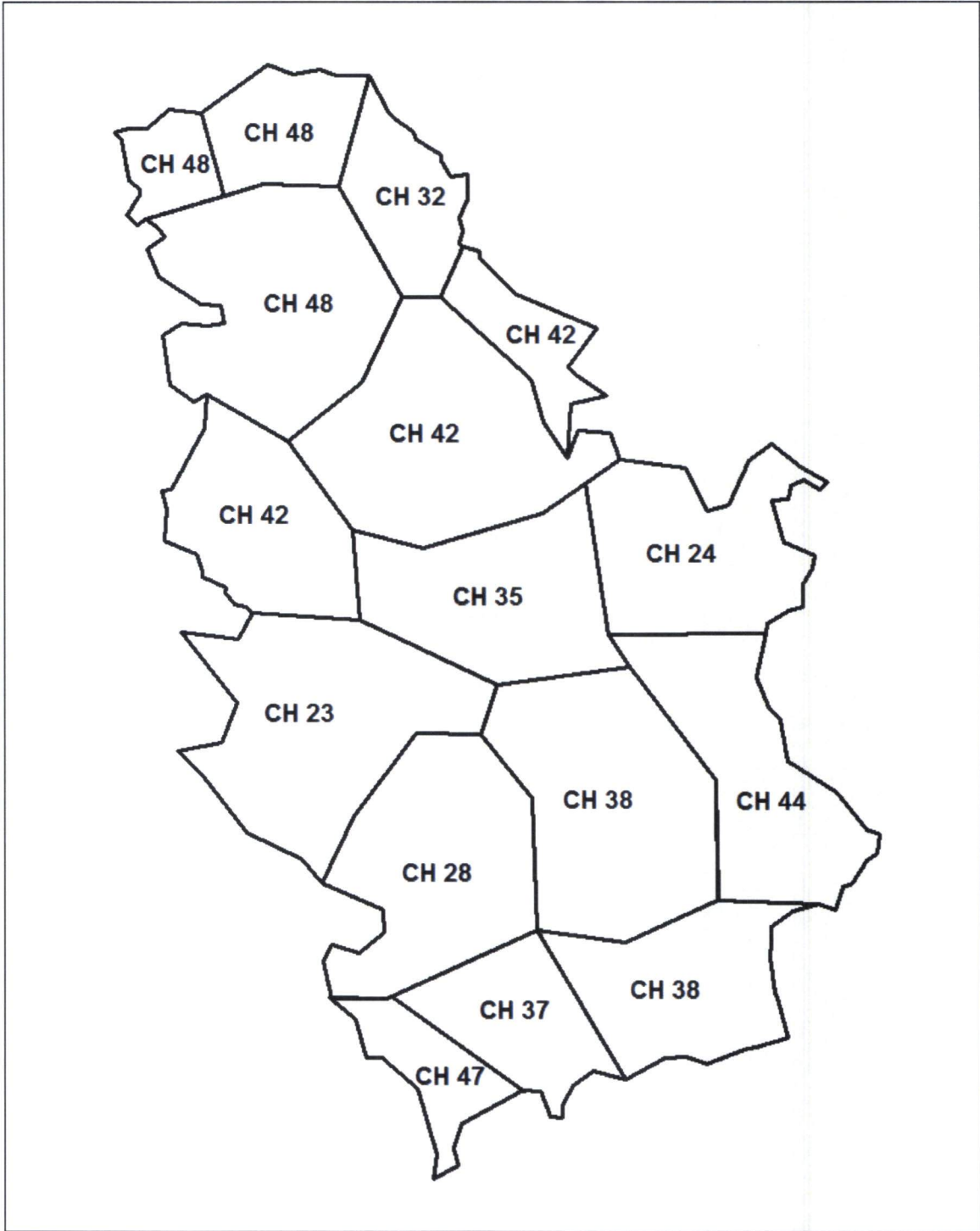


Layer 5



AB  
for salt

Layer 6

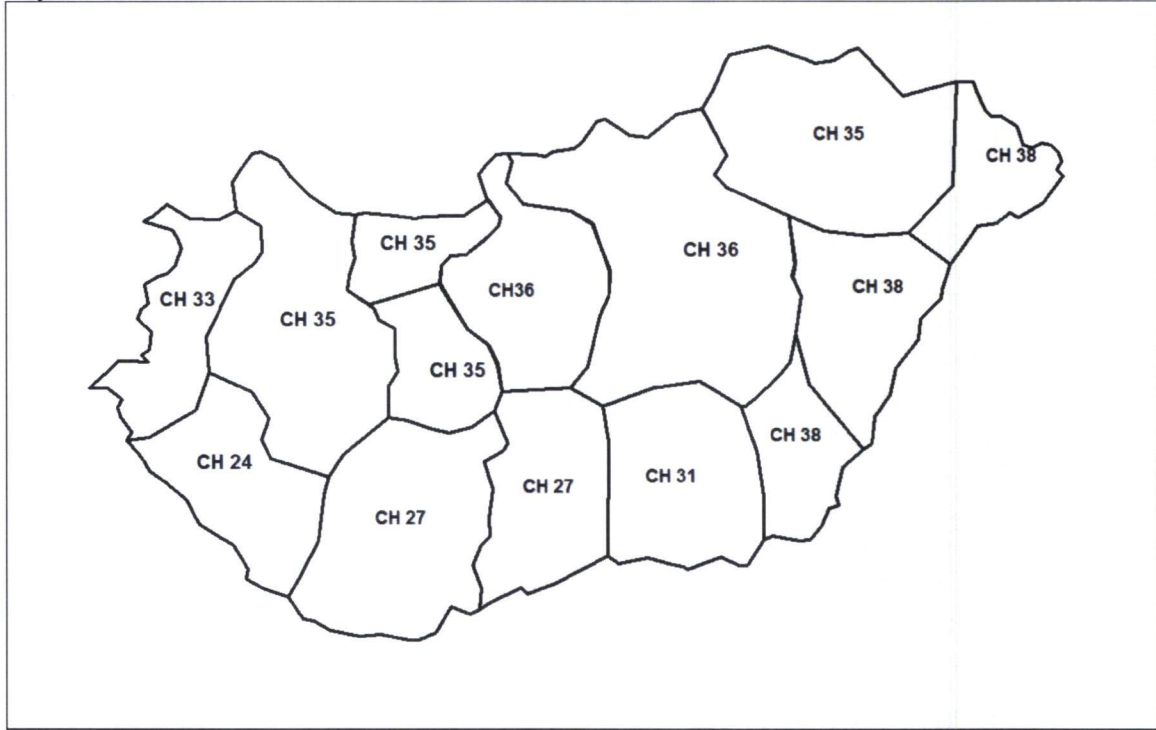


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Jan Holt

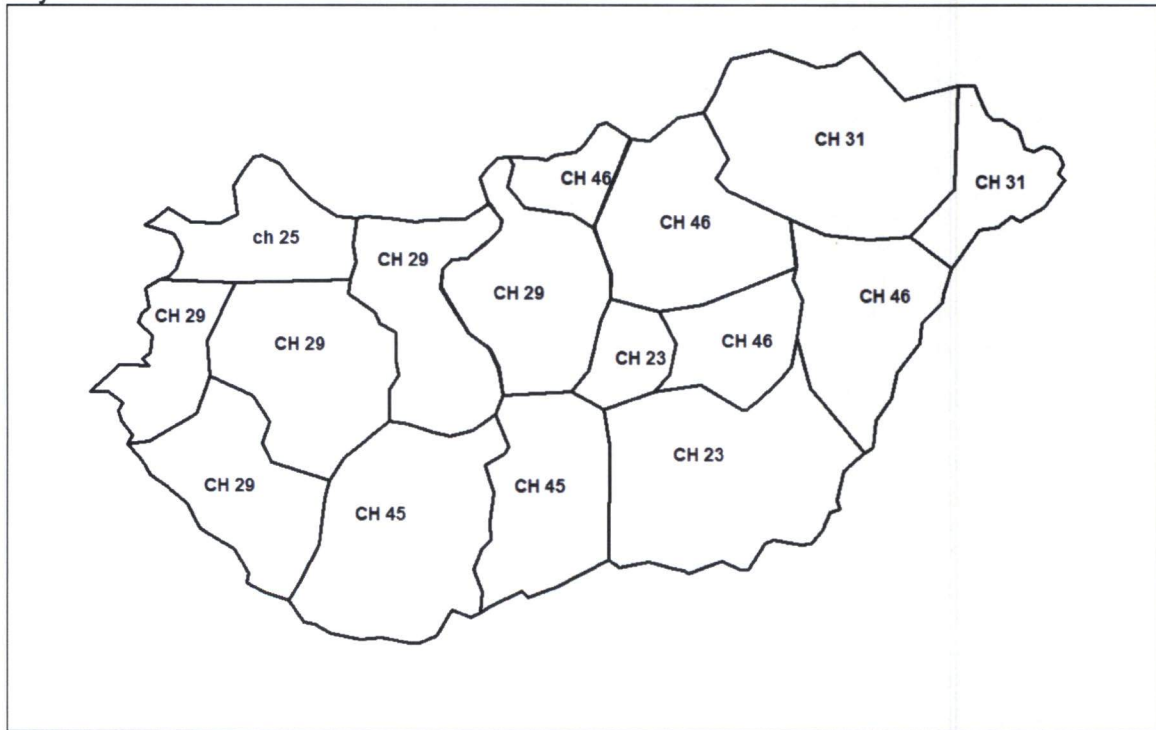
## Annex 2

### Channel distribution of Administration of Hungary

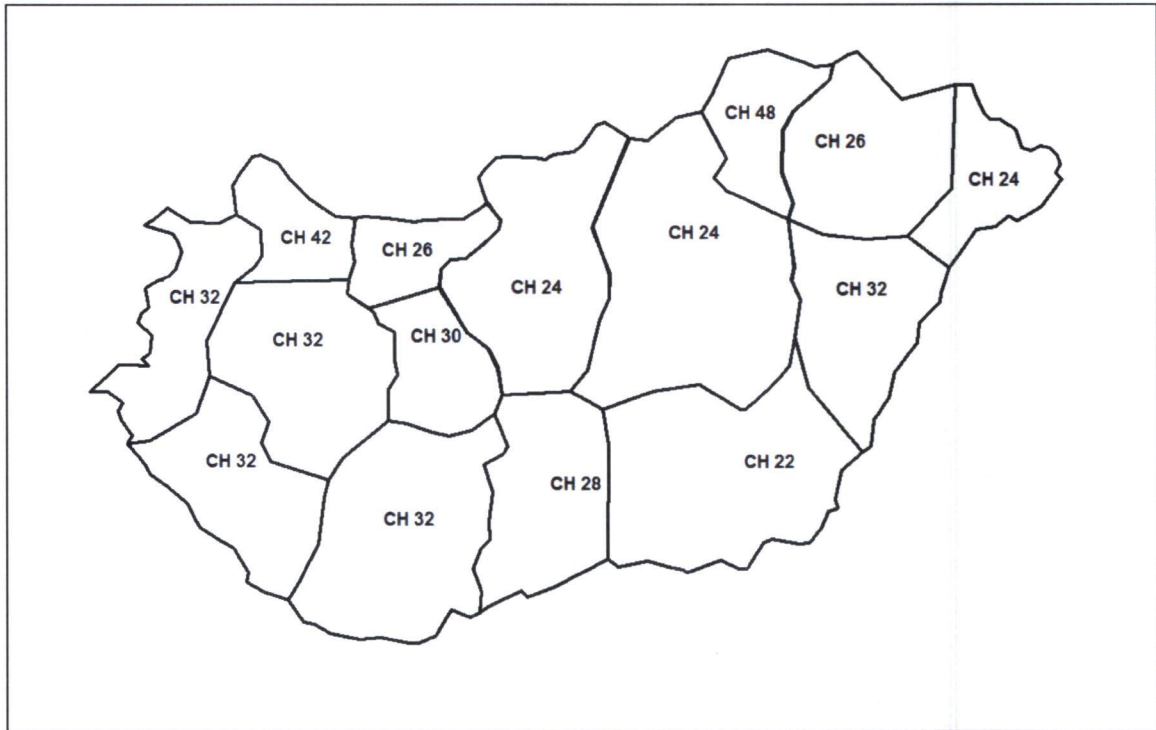
Layer 1



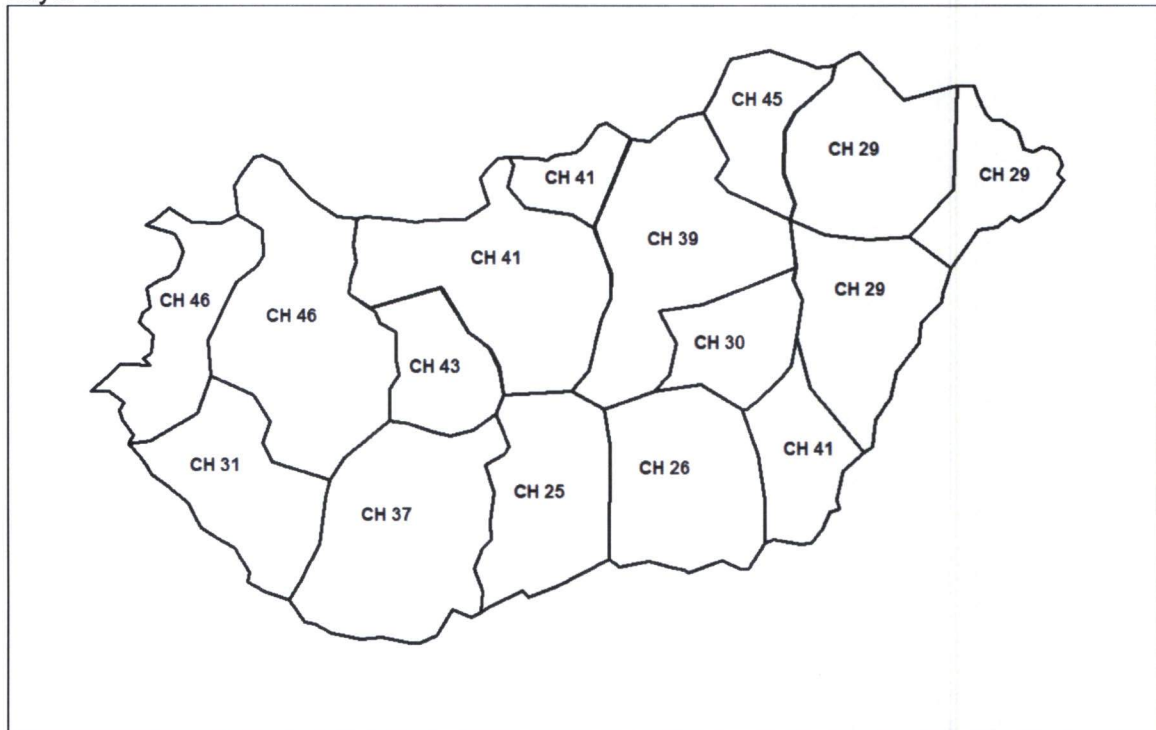
Layer 2



Layer 3

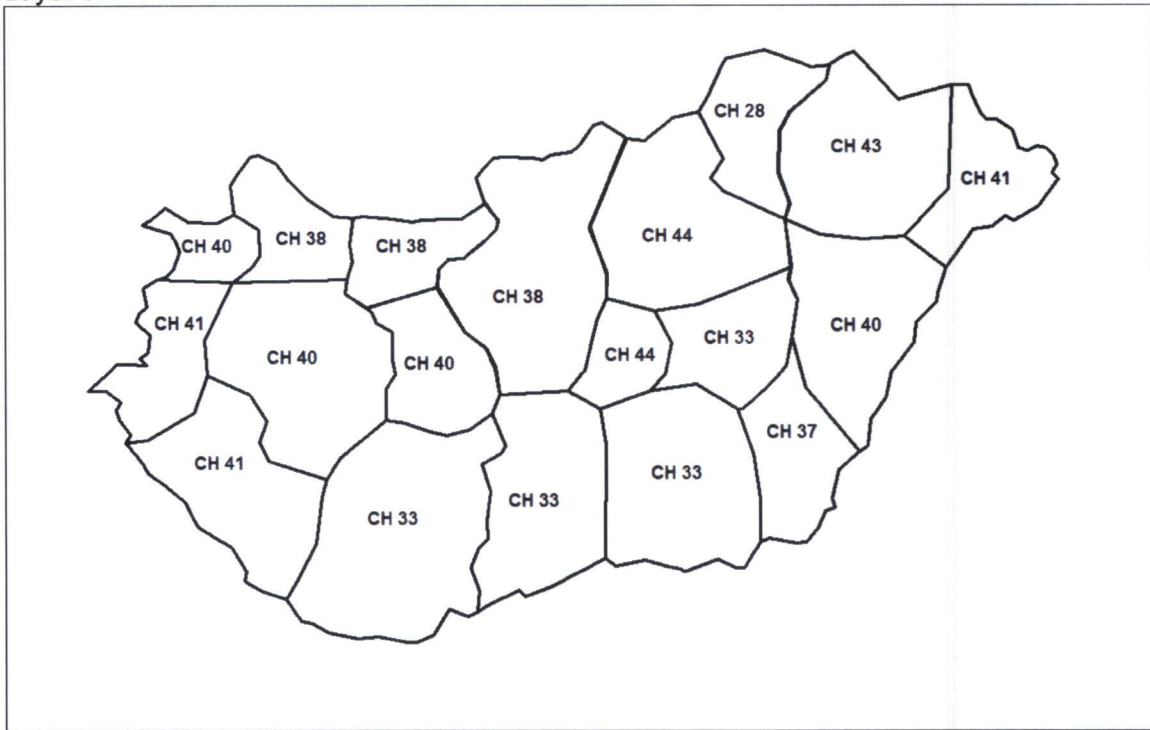


Layer 4

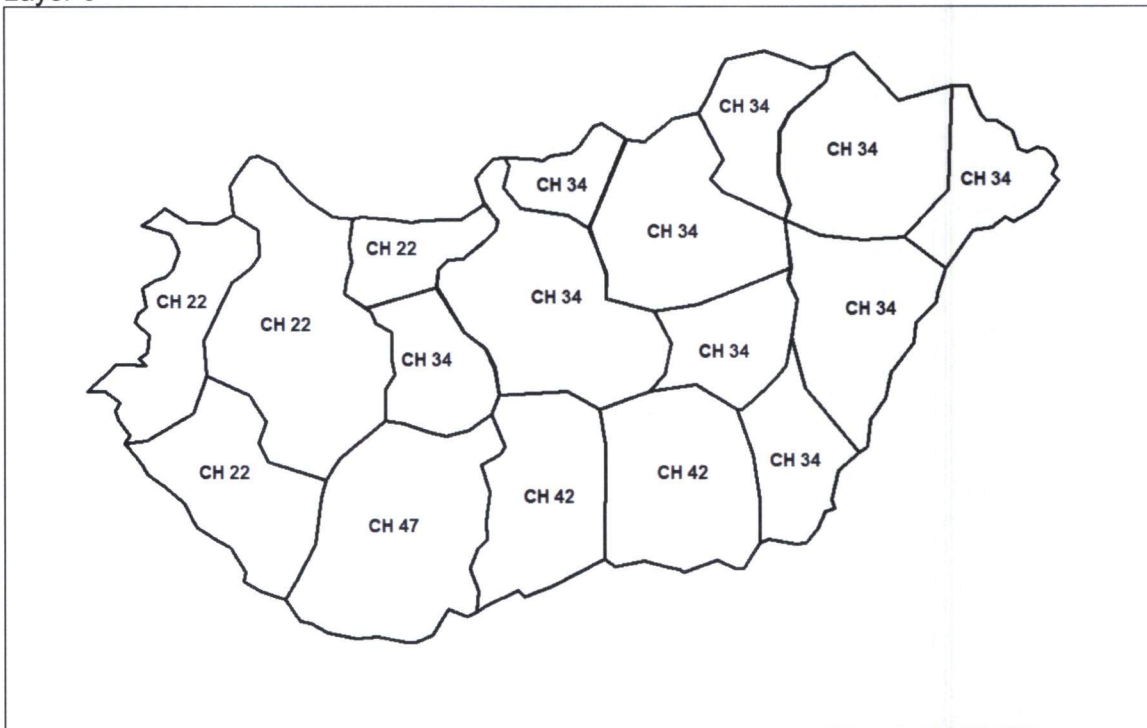


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Layer 5



Layer 6



AB  
Tom York

### Annex 3

## Assignments of Administration of the Republic of Serbia agreed by Administration of Hungary

Station #	Site name	Adm	Geo coordinates		ERP [W]	Hant [m]	Heff [m]	Channel No.	Pol
1	AVALA	SRB	20°31'12.0"E	44°41'47.0"N	200000	160	500	37	H
2	AVALA	SRB	20°31'12.0"E	44°41'47.0"N	200000	160	500	42	H
3	B VISNJICEVO	SRB	20°40'45.0"E	45°26'59.0"N	10000	110	109	24	H
4	B VISNJICEVO	SRB	20°40'45.0"E	45°26'59.0"N	10000	110	109	30	H
5	B VISNJICEVO	SRB	20°40'45.0"E	45°26'59.0"N	10000	110	109	46	H
6	B VISNJICEVO	SRB	20°40'45.0"E	45°26'59.0"N	10000	110	109	40	H
7	BAJINA BASTA	SRB	19°26'36.0"E	43°56'32.0"N	2000	30	835	30	H
8	BAJINA BASTA	SRB	19°26'36.0"E	43°56'32.0"N	2000	30	835	41	H
9	BAJINA BASTA	SRB	19°26'36.0"E	43°56'32.0"N	2000	30	835	24	H
10	BESNA KOBILA	SRB	22°14'05.0"E	42°31'44.0"N	50000	25	976	29	H
11	BESNA KOBILA	SRB	22°14'05.0"E	42°31'44.0"N	50000	25	976	33	H
12	BESNA KOBILA	SRB	22°14'05.0"E	42°31'44.0"N	50000	25	976	38	H
13	BITOVIK	SRB	19°41'33.0"E	43°26'55.0"N	2000	25	892	30	H
14	BITOVIK	SRB	19°41'33.0"E	43°26'55.0"N	2000	25	892	41	H
15	BITOVIK	SRB	19°41'33.0"E	43°26'55.0"N	2000	25	892	24	H
16	CER	SRB	19°29'54.0"E	44°36'12.0"N	10000	51	616	39	H
17	CRNI VRH J	SRB	21°06'58.0"E	44°00'35.0"N	100000	60	583	43	H
18	CRNI VRH J	SRB	21°06'58.0"E	44°00'35.0"N	100000	60	583	47	H
19	CRVENI COT	SRB	19°42'30.0"E	45°09'06.0"N	200000	110	536	40	H
20	CRVENI COT	SRB	19°42'30.0"E	45°09'06.0"N	200000	110	536	34	H
21	CVILJEN	SRB	20°44'54.0"E	42°10'20.0"N	10000	76	1091	47	H

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Tom Balt

22	DELI JOVAN	SRB	22°13'39.0"E	44°13'35.0"N	20000	60	888	29	H
23	DELI JOVAN	SRB	22°13'39.0"E	44°13'35.0"N	20000	60	888	39	H
24	GOC	SRB	20°52'42.0"E	43°33'45.0"N	5000	30	833	25	H
25	GOLES	SRB	20°58'59.0"E	42°34'07.0"N	10000	90	560	37	H
26	GUCEVO	SRB	19°10'54.0"E	44°29'16.0"N	2000	25	679	39	H
27	JADOVNIK	SRB	19°49'52.0"E	43°16'08.0"N	5000	30	899	30	H
28	JADOVNIK	SRB	19°49'52.0"E	43°16'08.0"N	5000	30	899	41	H
29	JADOVNIK	SRB	19°49'52.0"E	43°16'08.0"N	5000	30	899	24	H
30	JASTREBAC	SRB	21°28'14.0"E	43°22'56.0"N	100000	40	1063	25	H
31	KIKINDA	SRB	20°27'08.0"E	45°51'42.0"N	100000	150	150	24	H
32	KIKINDA	SRB	20°27'08.0"E	45°51'42.0"N	100000	150	150	30	H
33	KIKINDA	SRB	20°27'08.0"E	45°51'42.0"N	100000	150	150	46	H
34	KIKINDA	SRB	20°27'08.0"E	45°51'42.0"N	100000	150	150	40	H
35	KLADOVO	SRB	22°30'55.0"E	44°39'21.0"N	2000	25	408	29	H
36	KLADOVO	SRB	22°30'55.0"E	44°39'21.0"N	2000	25	408	39	H
37	KOSMAJ	SRB	20°34'58.0"E	44°28'34.0"N	2000	20	386	37	H
38	KOSMAJ	SRB	20°34'58.0"E	44°28'34.0"N	2000	20	386	42	H
	KRUPANJ								
39	JAGODNJA	SRB	19°17'51.0"E	44°20'34.0"N	500	25	644	39	H
	LJUBOVIJA								
40	NEMIC	SRB	19°26'02.0"E	44°10'42.0"N	500	35	611	39	H
	MAJDANPEK-STARICA								
41	MAJDANPEK-STARICA	SRB	21°55'51.0"E	44°26'19.0"N	1000	25	314	29	H
	MAJDANPEK-STARICA								
42	STARICA	SRB	21°55'51.0"E	44°26'19.0"N	1000	25	314	39	H
43	MALJEN	SRB	20°00'50.0"E	44°08'27.0"N	10000	22	757	39	H
44	OVCAR	SRB	20°13'19.0"E	43°53'47.0"N	100000	40	773	30	H
45	OVCAR	SRB	20°13'19.0"E	43°53'47.0"N	100000	40	773	41	H

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46	OVCAR	SRB	20°13'19.0"E	43°53'47.0"N	100000	40	773	24	H
47	RUDNIK	SRB	20°32'43.0"E	44°07'53.0"N	20000	50	802	43	H
48	RUDNIK	SRB	20°32'43.0"E	44°07'53.0"N	20000	50	802	47	H
49	SID	SRB	19°23'18.0"E	45°09'21.0"N	1000	100	200	40	H
50	SID	SRB	19°23'18.0"E	45°09'21.0"N	1000	100	200	34	H
51	SOMBOR	SRB	19°09'02.0"E	45°46'50.0"N	50000	150	150	48	H
52	SOMBOR	SRB	19°09'02.0"E	45°46'50.0"N	50000	150	150	24	H
53	SUBOTICA	SRB	19°38'10.0"E	46°04'40.0"N	200000	210	214	46	H
54	SUBOTICA	SRB	19°38'10.0"E	46°04'40.0"N	200000	210	214	24	H
55	SUBOTICA	SRB	19°38'10.0"E	46°04'40.0"N	200000	210	214	48	H
56	TORNIK	SRB	19°38'44.0"E	43°39'12.0"N	10000	45	783	30	H
57	TORNIK	SRB	19°38'44.0"E	43°39'12.0"N	10000	45	783	41	H
58	TORNIK	SRB	19°38'44.0"E	43°39'12.0"N	10000	45	783	24	H
59	VRANJE SV ILIJA	SRB	21°48'35.0"E	42°34'25.0"N	2000	30	788	29	H
60	VRANJE SV ILIJA	SRB	21°48'35.0"E	42°34'25.0"N	2000	30	788	33	H
61	VRANJE SV ILIJA	SRB	21°48'35.0"E	42°34'25.0"N	2000	30	788	38	H
62	VRSAC	SRB	21°19'54.0"E	45°07'30.0"N	100000	40	350	33	H
63	VRSAC	SRB	21°19'54.0"E	45°07'30.0"N	100000	40	350	45	H
64	ZRENJANIN	SRB	20°23'34.0"E	45°22'40.0"N	10000	150	156	40	H
65	ZRENJANIN	SRB	20°23'34.0"E	45°22'40.0"N	10000	150	156	34	H

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## Annex 4

### Assignments of Administration of Hungary agreed by Administration of the Republic of Serbia

No.	Name of station	channel	ERP (dBW)	LONG	LATT	Site height (ASL)	Eff. Height max	Ant. Diagr.	Polarization	Ant. Height (AGL)
1	AGGTELEK	34	44	020E44 01	48N28 49	515	474	D	H	105
2	BEKESCSABA	34	40	021E02 25	46N41 18	87	119	ND	H	117
3	BUDAPEST OMK	36	47	018E58 44	47N29 31	457	533	D	H	182
4	BUDAPEST OMK	29	47	018E58 44	47N29 31	457	533	D	H	182
5	BUDAPEST_HHH	36	40	019E00 05	47N33 00	439	432	D	H	95
6	BUDAPEST_HHH	29	40	019E00 05	47N33 00	439	432	D	H	95
7	BUDAPEST_SZAVA	36	38	019E07 33	47N28 07	115	119	D	H	107
8	BUDAPEST_SZAVA	29	38	019E07 33	47N28 07	115	119	D	H	107
9	CEGLED	44	22	019E47 43	47N10 19	105	106	D	H	95
10	CEGLED	24	22	019E47 43	47N10 19	105	106	D	H	95
11	CEGLED	23	22	019E47 43	47N10 19	105	106	D	H	95
12	DEBRECEN	38	42	021E38 05	47N34 39	129	118	D	H	99
13	DEBRECEN	34	42	021E38 05	47N34 39	129	118	D	H	99
14	FEHERGYARMAT	29	47	022E35 13	47N59 55	111	211	D	H	210
15	FEHERGYARMAT	31	47	022E35 13	47N59 55	111	211	D	H	210
16	GERECSE	35	47	018E29 38	47N40 34	620	593	D	H	125
17	GERECSE	22	47	018E29 38	47N40 34	620	593	D	H	125
18	GERECSE	38	47	018E29 38	47N40 34	620	593	D	H	125
19	GYOR	38	44	017E40 07	47N39 39	134	125	D	H	102
20	KABHEGY	29	47	017E39 13	47N02 56	574	563	D	H	228
21	KABHEGY	32	47	017E39 13	47N02 56	574	563	D	H	228
22	KABHEGY	40	47	017E39 13	47N02 56	574	563	D	H	228
23	KARANCS	34	42	019E47 21	48N09 27	710	526	D	H	28
24	KARANCS	41	42	019E47 21	48N09 27	710	526	D	H	28
25	KARCAG-PUSPOKLADANY	46	39	020E56 31	47N18 20	85	64	D	H	64
26	KARCAG-PUSPOKLADANY	24	39	020E56 31	47N18 20	85	64	D	H	64
27	KARCAG-PUSPOKLADANY	33	38	020E56 31	47N18 19	85	64	D	H	64
28	KARCAG-PUSPOKLADANY	34	38	020E56 31	47N18 19	85	64	D	H	64
29	KECSKEMET	24	34	019E41 04	46N53 47	117	83	D	H	73

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30	KECSKEMET	44	34	019E41 04	46N53 47	117	83	D	H	73
31	KECSKEMET	23	34	019E41 04	46N53 47	117	83	D	H	73
32	KEKES	46	47	020E00 33	47N52 22	1012	934	D	H	146
33	KEKES	24	47	020E00 33	47N52 22	1012	934	D	H	146
34	KEKES	34	47	020E00 33	47N52 22	1012	934	D	H	146
35	KOMADI	38	47	021E29 37	47N01 07	90	174	D	H	171
36	KOMADI	34	47	021E29 37	47N01 07	90	174	D	H	171
37	NAGY HIDEG-HEGY	29	36	018E55 18	47N56 11	852	650	D	H	15
38	NAGY HIDEG-HEGY	36	36	018E55 18	47N56 11	852	650	D	H	15
39	NAGYKANIZSA	29	47	017E01 08	46N33 46	308	365	D	H	198
40	NAGYKANIZSA	32	47	017E01 08	46N33 46	308	365	D	H	198
41	NAGYKANIZSA	22	47	017E01 08	46N33 46	308	365	D	H	198
42	NYIREGYHAZA	29	32	021E42 58	47N56 52	110	64	D	H	55
43	NYIREGYHAZA	34	32	021E42 58	47N56 52	110	64	D	H	55
44	PECS	27	47	018E13 12	46N05 57	534	588	D	H	182
45	PECS	45	47	018E13 12	46N05 57	534	588	D	H	182
46	PECS	33	47	018E13 12	46N05 57	534	588	D	H	182
47	SOPRON	22	47	016E34 06	47N39 44	390	386	D	H	128
48	SOPRON	46	47	016E34 06	47N39 44	390	386	D	H	128
49	SZEGED	33	44	020E09 05	46N13 57	80	80	D	H	80
50	SZEGED	42	44	020E09 05	46N13 57	80	80	D	H	80
51	SZEKESFEHERVER	35	39	018E23 42	47N09 10	117	110	D	H	97
52	SZEKESFEHERVER	34	39	018E23 42	47N09 10	117	110	D	H	97
53	SZENTES	42	47	020E16 57	46N37 26	83	233	D	H	230
54	SZENTES	33	46.8	020E16 57	46N37 26	83	233	D	H	230
55	SZOLNOK	33	43	020E13 33	47N11 31	87	67	D	H	65
56	SZOLNOK	34	43	020E13 33	47N11 31	87	67	D	H	65
57	SZOLNOK	46	43	020E13 33	47N11 31	87	67	D	H	65
58	SZOLNOK	24	43	020E13 33	47N11 31	87	67	D	H	65
59	SZOMBATHELY	22	42	016E32 17	47N13 43	301	164	D	H	66
60	SZOMBATHELY	29	42	016E32 17	47N13 43	301	164	D	H	66
61	SZOMBATHELY	41	42	016E32 17	47N13 43	301	164	D	H	66
62	SZOMBATHELY	46	42	016E32 17	47N13 43	301	164	D	H	66
63	TOKAJ	29	48	021E22 54	48N07 13	512	525	D	H	106
64	TOKAJ	34	48	021E22 54	48N07 13	512	525	D	H	106
65	UZD	27	47	018E34 44	46N35 28	204	204	D	H	99
66	UZD	45	47	018E34 44	46N35 28	204	204	D	H	99
67	UZD	33	47	018E34 44	46N35 28	204	204	D	H	99
68	VASVAR	29	47	016E39 08	46N57 21	249	185	D	H	125
69	VASVAR	41	47	016E39 08	46N57 21	249	185	D	H	125
70	VASVAR	22	47	016E39 08	46N57 21	249	185	D	H	125

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Molt

71	VASVAR	46	47	016E39 08	46N57 21	249	185	D	H	125
72	ZALAEGRSZEG	29	32	016E48 46	46N48 49	293	219	D	H	76
73	ZALAEGRSZEG	22	32	016E48 46	46N48 49	293	219	D	H	76
74	ZALAEGRSZEG	46	32	016E48 46	46N48 49	293	219	D	H	76

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