

Disaster management at special cases like delay in starting intervention fire management in prisons in Hungary

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Abstract. In Hungary fire-fighting duties are generally fulfilled by fire services operating within the framework of the unified organization of disaster management. To increase efficiency this might change in specific cases, furthermore other organisations can also fulfil fire-fighting duties. The reason behind this is that sometimes firefighters arrive at the scene with a considerable delay therefore people located in the area have to start fire-fighting with the utilization of special equipment to minimize damage. Such occasions are when disasters or fires are to be managed during mass events, affrays or inside prisons. The author applied the current legislation of Hungary, interviewed some of the managers working in the Prison Service as well as utilized his previous experience in fire-fighting. The author describes the current state of the Hungarian prisons, depicts the characteristics and the current changes of the fire safety training received by the prison personnel. The author shows examples regarding cases where the arrival of firefighters cannot be achieved under the professionally accepted time limit of 15 minutes. A cell fire with a fatal outcome is also described in the paper. The complicated situation faced by the prison personnel in case of fire is also addressed. The author tries to assist in the improvement of the educational syllabus as well as in the perfecting of the knowledge of the personnel.

Key Words: firefighting, delay of starting intervention, fire during mass event, affray, prison.

Introduction. The importance and constant studying of actual firefighting interventions in penitentiary and prison services in Hungary, is absolutely acknowledged by experts, without a doubt. The methodology of these special firefighting interventions, needs special considerations, both in prevention and both in penitentiary and prison institution systems, during a disaster management process. After all, this makes it a particularly relevant factor.

In this publication, the authors presenting the actual status of Hungarian penitentiary and prison institutions, and make a presentation of penitentiary and prison ranks fire safety training specifications (Lőrincz 2009), and its actual changes. The authors show examples, regarding cases where the arrival of firefighters cannot be achieved under the professionally accepted time limit of 15 minutes. A cell fire with a fatal result is also described in the article. The authors summarize the current legislation, official regulations and methodological guidances in Hungary, then regarding to these points, make a rating summary of the relevant national and international specialized literature.

Trough the assessment analysis of specialized literature, reveals the recommended solutions and represented aspects of the relevant authors quoted publications. It reveals, for what kind of cases do these writings provide a solution, and for what not at all. So, what is already solved and what is not. Among the latter, the authors undertake innovative solutions for certain subtasks. By the methodological guidances, they created a standard case study method, and made a rating and study of five national institution's current statuses. Furthermore, they also studied a special case as well. The examination methods, the detailed representation of the results, the personal conclusions and the examined unique cases's useful and common conclusions and methodology recommendations for the professionals, made the overall content of this article. For all of the content, the authors also used their personal experience in firefighting and the methodological knowledge. The authors only partly discuss specialized literature themes, and not directly analyse certain topics

The fire safety of penitentiaries functioning on the area of Hungary is in a special situation. In addition to the first, second and third grade prisons (Evi 2012) there are two special institutions, the Institute of Psychiatry and Judicial Observation and the Central Hospital of the Detention Centre of Tököl where the installation of fire alarm systems and the tactics of fire-fighting entails specific requirements and safety rules resulting from the

detention. On the area of Hungary 1 regional organizations with special priority, 8 regional organizations and 12 local ones operate (<http://bv.gov.hu/bv-intezetek>). Nowadays 20000 people are kept under detention, that means that the prisons are 135% full (Ladányi 2015). Most of the institutions of the Hungarian prison system was established at the turn of the 20th century or earlier (Állampusztá in 1886, Kecskemét in 1904, Balassagyarmat in 1847, Pécs in 1884), and the 'new' prisons founded at the time of the classical communism were built in the middle of the country because of national security, for example. Baracska founded in 1953, Tököl in 1963, Kalocsa in 1950 or Pálhalma in 1951. According to the rules of the placement of convicts every prisoner should be put in a separate cell. However the old prisons are characterized by cells for many people, so it is insolvable. In the penal institution of Pálhalma there are even cells for 30 persons, meanwhile the other prisons contain four-person cells (<http://bv.gov.hu/i-szervezeti-szemelyzeti-adatok>).

Actual situation of penal execution institutes. The fire protection system of prisons in terms of disaster management coverage is limited because of the so-called "white spots" (the term „white spots" implies that reaching the areas of firefighter units cannot be solved within 15 minutes).

The Constitution, under Article II (http://net.jogtar.hu/jr/gen/hjegy_doc.cgi?docid=A1100425.ATV) in Hungary every human being has the inherent right to life and basic human dignity, which means it can be specified level of emergency fire protection, regardless of whether that person's resulting penalty is deprivation of liberty or pre-trial detention.

Case study of a few national institutions. The efficiency of life-saving and remediation factors in a few national institutions, examined by the given academic literature classification (Pántya 2016):

- the time between the intervention and the concrete occurring of the event;
- appropriate power-tool availability;
- qualification and practical knowledge of intervention participants.

Following this context, forehand I formed a homogeneous test criteria, with the following important elements. I have studied the distances of penal execution institutes applied with distances of disaster management spots, which is a basis for setting up an Operational Management Plan:

- a took part in the basic training, created for the bv. (= penal execution in English/short form) rank;
- we visited many national penal execution institutes, interviewed nation-wide fire-safety professionals and still in a constant contact with them.

Throughout the country we can find a number of five Penal Execution Institutes, that after an alarm, reached more than the required 15 minutes by a former fire brigade, because of it's distance. The aforesaid five institutes are the Állampusztai Penal Execution Institution, the Közép-Dunántúli National Penal Execution Institution located at Baracska, the Márianosztra Jail and Prison, the Tiszalök National Penal Execution Institution and the National Detention Centre and Central Hospital located at Tököl. If we add to the reaching time the 54/2014 National Fire-Safety Regulation (http://njt.hu/cgi_bin/njt_doc.cgi?docid=172805.285416) 10 minute lock operation time, it's clear, that there are institutions where fire brigades can only start interventions after at least 40 minutes.

Due to this reaching time, we can say, that the applied custodial staff has a huge responsibility , because more than 10 minutes, they only can rely on themselves, trying to contain the flames and protecting human life and physical well-being (Figure 1).

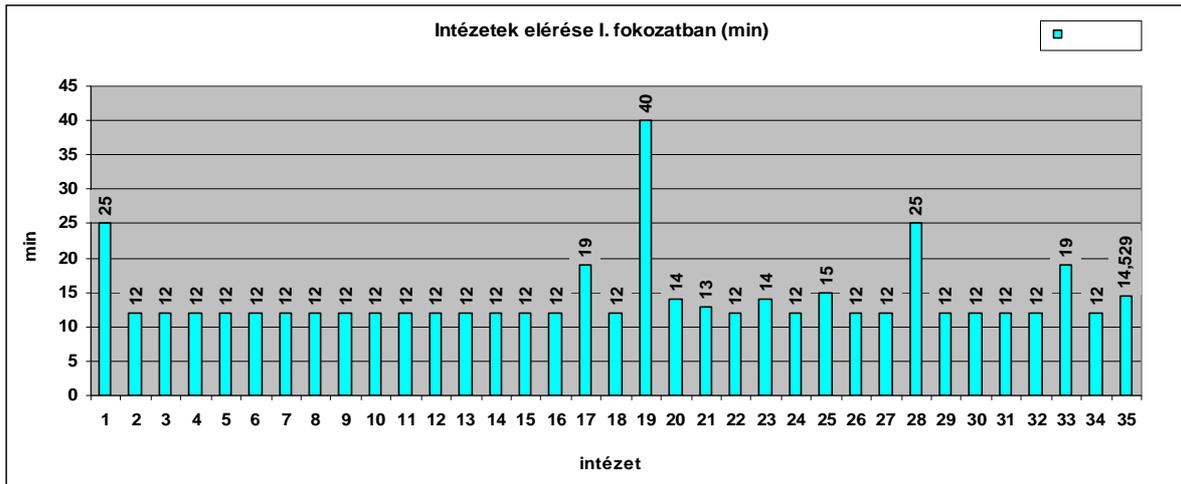


Figure 1. The first firefighter time for achieve the institution in minutes [made by the authors].

Actually, for the pention execution ranks aren't any facility side firefighter assistance or firefighting truck option available, which could provide further possibilities and safety options. Today's education for pention execution ranks, only include life saving and rescue methods from the cells (<http://rendeszet.hu/hatarrendeszetitagozat/beregnyei2.pdf>). In the prevention of further spreading of fire, they could only use wall hydrants and fire-extinguishers. Despite of all, following the restrictions, the custodial staff not allowed to use these by safety issues.

The chance of prisoners escape is taking to account when a fire or a technical rescue during their transportation occurs. There are many examples from around the world, that the effects of a fire were used for a prison break or for a breakout, in the hope of freedom (Sachs 2012). Even if this not treated like it has done by purpose, we must take into account the different business organizations, like clothing manufacturers, timber works, agricultural activities and product storing, by the side of penal execution institutions. By the aspects of fire hazard, none of it negligible (http://tuzoltosag.info/hir/ipari_tuz/20151212_tuz_egy_dunaujvarosi_cellulozgyarban/).

In accordance with legal requirements, if the estimated arrival is between 10-20 minutes after an alarm it is qualified as a mark III. priority alarm with a number of 3,5-4 arriving fire brigades, and if it is estimated to require more than 20 minutes, then it needs a number of 4,4-5 fire brigades, during a fire extinguishing process in penal execution institutions (<http://www.kozlonyok.hu/nkonline/MKPDF/hiteles/MK15081.pdf>). By the aforementioned examples, in the case of a mark III. priority alarm the required time is 34, 43 minutes, while a mark IV needs 56 minutes, by the national average (Figure 2).

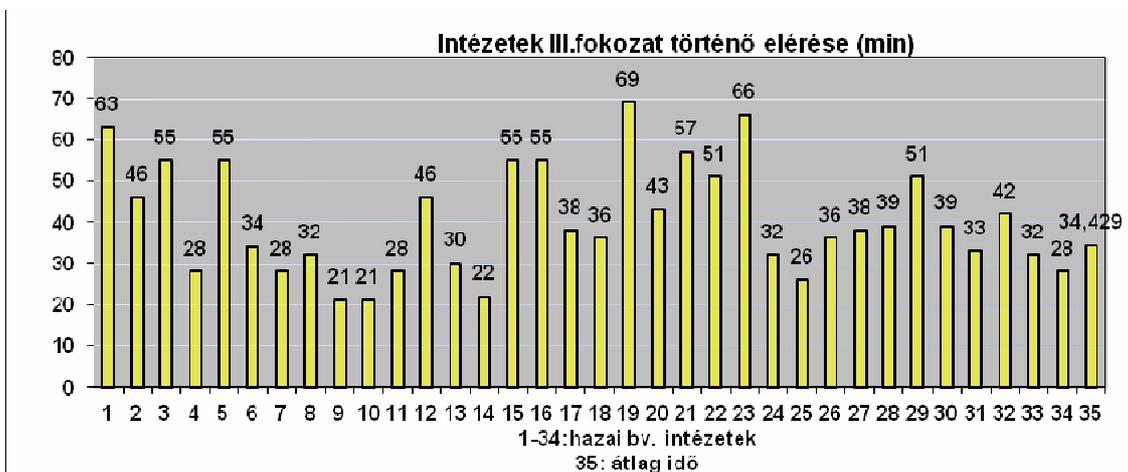


Figure 2. The 3rd firefighter time for achieve the institution in minutes [made by the authors].

Anyway, the institutions difficult accessibility by fire services, includes a high potential of conforming unusual situations, with the co-operating of Ltd.-s (Szepesi et al 2003). If we only consider the average time to arrive, which is nearly a quarter hour, we can absolutely make a declaration of expecting serious damage in a paper, textile or wood operating and producing manufacturer, caused by a simple short-circuit. The spread of fire and the following sudden situation, will not only result in the loss of production (Bleszity et al 2014) but by chance, in a prisoners escape as well.

If only one disaster management patrol, or an Ltd.-s or penal execution's firefighters that assigned from their own personnel performing a duty on the field, they could possibly manage emergency cases in a maximum of 25 minutes, and stop or minimize the spreading of fire (Albert 2003) According to this intention, there could be a chance to meet the requirements of several legislative's. However, it can not be considered safe to stay in the area, while there is a jail, prison or penitentiary that requires more than 40 minutes for an arrival of a first responding team, or an active Ltd. operating on the territory as a risk factor.

Állampuszta Penal Execution Institution. The institute's basic mission is related task of the pre-trial detention, as well as the adult male prison inmates and prison imprisonment. The capacity of the institute is 814 people, mainly men with final judgment and adult prisoners spend in their sentence. The institute is semi-open nature, which means that the inmates work in agricultural units located next to the institute, which is carried out within cooperation with Állampuszta Agriculture and Commerce Ltd. The Ltd. deals of agricultural production, livestock and crops in storage. These activities are classified low risk rating in terms of disaster management.

Közép-Dunántúli National Penal Execution Institution. The Közép-Dunántúli National Penal Execution Institution is national sphere of penal institution, seat in the Baracska Annamajor and Székesfehérvár and Martonvasar sites.

The Baracska facility is located in Fejér County, between Baracska and Pettend settlements, 3 km away from the main road 7. The tasks of the facility are implementation of adult men under penitentiary, prison and detention center stage, as well as implementing rules more lenient punishment of imprisonment, furthermore the implementation of adult men residing in Budapest, Pest County and Komárom-Esztergom County strangulation. The facility provides placement for over 1,000 inmates. The Annamajor Agriculture Ltd. deals crop production, animal husbandry and bakeries. These activities in terms of disaster risk classification are in medium-risk level.

The facility in Székesfehérvár is located in the same building with the city police, the district court, the tribunal, as well as the county and city prosecutor's office. The basic task of the facility is implementing the pre-trial detention in Fejér and Komárom-Esztergom County, furthermore regarding the implementation of incarceration in Fejér County. The object ensures the placement of nearly 200 people (Ladányi 2015).

The Martonvásár facility in Martonvásár territory, is located separately from the occupied area, approx. 200 meters from the M7 motorway. After standing idle for more than 10 years and after the renovations of facility there was a ceremony on 23rd March 2015. The facility allows 126 low security-risk detained placement, who work outside.

Márianosztra Jail and Prison. The institute's core business is state task. The scope determined by special appointment with the tasks of the pre-trial detention, the statutory imprisonment, and tasks of the adult male prison inmates and prison-grade execution of imprisonment. Within these tasks, of course, the activities related to especially in the detention security, employment and provision of healthcare. For the inmates housed at the institute it gives priority to engage in successful integration into society, promoting employment, education, vocational training and work regularly. A business organization in the field of the institute Ltd. NOSTRA employs the majority of convicts. The products manufactured here (eg.: a variety of wood and paper products, etc.) are made to order. Some of the convicts are participating in financial form in the provision of the institutions, maintenance and operation of the work. Some of them perform custom work outside the

institution, of course, keep in mind the security of the detention. Great emphasis is placed on continued to expand of the employment opportunities for inmates housed in the institute, create new jobs, the internal reserves by exploring, or developing external relations. The capacity of the institute is 481 people (Ladányi 2015). The Ltd. based on the mid-range of activities classified disaster risk rating.

Tiszalök National Penal Execution Institution. The institute's main task is the implementation of 700 persons (Ladányi 2015), a man convicted of imprisonment imposed in adult prison, jail and prison gear punishment. The Tiszalök National Penal Execution Institution often received the name "fortress", referring to its monumental nature. The 113 638 m² plot situated complex of buildings along next to the main road, the aerial photographs are rather outlined it from the landscape. The floor area of housing parts is 5540 m². The living area are two and three-storey buildings in which has cells for one, two and three-person placement. A total of living space is 14 380 m² (Ladányi 2015) with a building of jail together. The main pillar of the employment in the institute is film-selection which take place in the production halls. This part of the area is 1191 m².

Tököl Detention Centre Institution / Central Hospital. Both the adult prisoners in Tököl National Penal Execution Institution and previously arrested persons adherent to the District Court of Ráckeve, will be placed in this institution during the time of measures taken by the authorities. The institution is capable of boarding out approximately 700 prisoners. Most of the prisoners work at Duna Papír Ltd. located nearby the institution, and others take part in maintaining the institution and the Central Hospital.

The daily patient flow is approximately equal to a middle-size city hospital's amount. At the moment the hospital can ensure a number of 17 0000 prisoners medical attendance. The annual number of outpatients, is more than 10 000, while the the number of inpatients, is more than 1300.

„Fires within the grids“. Fires caused by detained persons can happen several times during the period of deprivation of liberty. The resulting fires formed by the smoke burden of burn the cloth, mattresses and blankets posed a major threat. The modular training system that is required to staff to contain a basic intervention skills of fire events, and the possibilities of rescue of an unconscious person. Teaching of this knowledge is very important, since 2003 in Zalaegerszeg, Zala County Prison a prison fire was demanded human life. The stock of Zalaegerszeg Municipal Fire Department has been contained the fire in the cell. The service's commander and the first team arrived at the burning cell to rescue an indoors stayed prisoner. The prison guards could not reach the cell due to the high temperature of the heat so that the detainee dead before the arrival of firefighters. Due to the firefighter's report informed me about the situation, after the opening of the door backdraft phenomenon also occurred, which would have endangered the lives of untrained prison guards who opened the cell door (Pántya 2014) The burning of the thick leather-covered rubber room generated health damaging dense smoke. The flames and the mass volume of smoke of burning materials in the cell was justified the evacuation of prisoners from that level and higher levels. In total 141 prisoners escape had been implemented during the vaccination.

These special intervention in such places, the question is the safety of fire brigades as well. The new Professional Firefighters Tactical Command require due to the reduction of threats, that the fire units in all cases accompanied by a penitentiary person who is equipped with coercive means to maintain security (http://www.katasztofavedelem.hu/letoltes/jogszabalyok/5_2014_1127_BMOKF_utasitas.pdf). However, the guards also need to wear respiratory protection apparatus against poisonous gases and vapors (Bérczi & Ecseti 2011). The penitentiary institutions are usually equipped with a small amount of AGA SPIROMATIC 316 (steel bottle) devices, which is practiced to wear and use just in a few places in the country. In case of an occurring fire in the application of rapid and skill level use of respiratory protection will

greatly help in the safety of the intervention, as well as to the rescue of prisoners from the cells.

Training of prison staff. In the first half of 2014 the Prison Service Headquarters and the Disaster Management Training Centre has developed a common training syllabus for the prison employees. So far, four classes acquainted with the new training syllabus, which has been designed in the spirit of collective thinking. The main theme of the current education was the rescue from the cells, as well as the instructors deal generated during transportation of detainees and the difficulties of fire accidents. In March 2015 was the first rescue simulation in the area of Hatvan-Nagygombos (a captive carrier car accident), which until then was unknown for fire and rescue personnel (www.katasztrofavedelem.hu/index2.php?pageid=szervezet_hirek&hirid=3470).

At Prison Service use circle delivery like a routine operation, which the detainees are moved between different institutions. All this, in many different types and capacity of the vehicle used to get up to fifty people at same time can be transported. Due to the special design of transport equipment, there are few and small rescue apertures. In the last 20 years, near Budapest had two roll-over, one was an accident, the second time the vehicle slanted the side because of the strong wind. Such an accident the behavior of inmates is unpredictable, there is a collaborative person, but there are people who immediately take advantage of this excellent opportunity and trying to escape.

A special vehicle suffered a road accident in Budapest, at Budaörsi-Alkotás-Hegyalja crossroads, that supports the legitimacy and necessity of training.

Conclusions. After an assessment overview of the legal regulations and literatures, we came to the following conclusion. In the field of Hungary's firefighting management in penal-execution institutions, education and training isn't developed, concerning many examples in penal execution institutions, where difficulties appear in fireguard and protection management by the harmful factors of location or storage and other production activities within the area. During my studies, we were searching for methods and solutions to eliminate these defects.

We recommend an acquisition of firetrucks, the advanced continuous training of the penal execution staff and a basic firefighting skill instruction for even more person on duty, in the above mentioned fields. Furthermore, we see additional options and opportunities of deploying disaster management posts in the affected areas, which could be a solution to decrease the amount of the so called "white spots" trough the country.

References

- Lőrincz J., 2009 Büntetőpolitika és börtönügy. Rejtjel Kiadó, Bp., ISBN:963 03 4346 0.
- Évi C. T., 2012 A Büntető törvénykönyvről. (The Criminal Code) 35. § (1)
http://net.jogtar.hu/jr/gen/hjegy_doc.cgi?docid=A1200100.TV. (letöltés ideje: 2016. április 23).
- Büntetés-végrehajtási Szervezet honlapja. (Prison Service website). <http://bv.gov.hu/bv-intezetek> (letöltés dátuma: 2015.10.30).
- Ladányi Antal, Interjú a büntetés - végrehajtás helyzetéről (Interview with the situation in Prison). 2015.10.10. Bp.
- Büntetés-végrehajtás felépítése (Structure of Prison). <http://bv.gov.hu/i-szervezeti-szemelyzeti-adatok> (letöltés dátuma: 2016.04.21).
- Magyarország Alaptörvénye (Fundamental Law of Hungary) (2011. április 25.)
http://net.jogtar.hu/jr/gen/hjegy_doc.cgi?docid=A1100425.ATV (letöltés ideje: 2016. április 29).
- Pántya Péter: WHAT CAN HELP FOR THE FIREFIGHTERS?, Zvolen: Technická Univerzita, 10 p. ADVANCES IN FIRE & SAFETY ENGINEERING
http://www.doktori.hu/index.php?menuid=192&sz_ID=11063 (Letöltés ideje: 2016.03.12).

- 54/2014. (XII:5.) BM rendelet az Országos Tűzvédelmi szabályzatról (National Fire Protection Regulations). http://njt.hu/cgi_bin/njt_doc.cgi?docid=172805.285416 (letöltés ideje: 2016.április 23).
- A Belügyminiszter felügyelete alá tartozó rendvédelmi szervek egységes moduláris alapú képzési rendszerének lényegi meghatározói. <http://rendeszlet.hu/hatarrendeszletitagozat/beregnyei2.pdf> (Letöltés ideje: 2016.03.12).
- Sachs E.: A State and its Prison: The Attica Riot of 1971 and Untold Stories Since. Unversity Michigan, Department of History, 2012.
- BM OKF: Tűz egy Dunaújvárosi cellulóz gyárban: (Fire in a cellulose factory). http://tuzoltosag.info/hir/ipari_tuz/20151212_tuz_egy_dunaujvarosi_cellulozgyarban/.
- 22/2015 BM OKF főigazgatói utasítás: A hivatásos katasztrófavédelmi szervek műveletirányításának rendjéről és a riasztás szakmai szabályairól <http://www.kozlonyok.hu/nkonline/MKPDF/hiteles/MK15081.pdf> (Letöltés ideje: 2016.03.12).
- Szepesi L., Antal F., Cseffó K., Komjáthy L., Polyák J., Tatarek Gy., Varga K.: Alapfokú tűzoltó ismeretek II., Tűzoltási és műszaki mentési alapismeretek. BM Katasztrófavédelmi Oktatási Központ, 2003. <http://komjathylaszlo.hu/elemek/pub/konyvfejezet/2003-tuzolt%C3%A1si-es-katasztrofavedelmi-ismeretek.pdf> (Letöltés ideje: 2016.04.26).
- Bleszity János, Grósz Zoltán, Krizsán Zoltán, Restás Ágoston, 2014 New Training for Disaster Management at University Level in Hungary; NISPAcee, Budapest, 2014.05.22-24. ISBN: ISBN 978-80-89013-72-2.
- Dr. Albert Albert: Tűzvédelem a börtönökben (Fire prevention in prisons). Börtönügyi szemle.-22 ,4. pp.27-42. Bp.2003.
- Pántya Péter: Zárt térben történő tűzoltói beavatkozások kockázatának csökkentése. Online: http://www.langlovagok.hu/szakdolgozatok/2011/zartter-_pantyapeter_phd.pdf (Letöltés ideje: 2014. október 2).
- 5/2014.(II.27.) BM OKF utasítás a Tűzoltás- taktikai Szabályzat kiadásáról. (Fire tactic Rule). http://www.katasztrofavedelem.hu/letoltes/jogszabalyok/5_2014_II27_BMOK_F_utasitas.pdf (letöltés dátuma: 2016.04.26).
- Bérczi László., Ecseti B.: Biztonságos tűzoltói beavatkozások technikai feltételei. Légzésvédelem. (Respiratory protection) Védelem folyóirat, 4 (2011) pp. 21–24. <http://www.vedelem.hu/letoltes/anyagok/471-a-beavatkoz-as-biztonsaganak-feltetelei-az-m3-as-metro-teruleten.pdf> (Letöltés ideje: 2016.04.26).
- Restás Ágoston: Alkalmazott tűzoltás. Nemzeti Közszolgálati Egyetem, Budapest, 2015 (Egyetemi jegyzet).
- Közös gyakorlat Hatvan Nagygomboson. Országos Katasztrófavédelmi Igazgatóság honlapja. www.katasztrofavedelem.hu/index2.php?pageid=szervezet_hirek&hirid=3470 (a letöltés dátuma: 2015.10.26) Fejes József: Tűzvizsgálati eljárás. Zalaegerszegi Hivatásos Önkormányzati Tűzoltóság, 2003.

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