

The Reality of Chemical Safety and Security at Al-Qasim Green University and Future Directions

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Abstract:

The Al-Qasim Green University begins after two years from the date of their establishment at 2012, to adopt training programs on chemical safety and security and the definition of their importance at different areas and applications, through their efforts and coordination with the central committee of the safety and security for the chemical, biological and radiological at the University of Babylon to work these programs for staff under the auspices of the president of the university, the first on 23 Nov-04 Dec 2014, then those training programs were connected directly with the global program for chemical security funded by a civilian international institutions associated with the league of United Nations, which has been implemented (14) as training programs or workshops at colleges of the university.

In this study will clarify the role of the university to adopt different and varied projects and programs about chemical safety and security for different staff of students (undergraduate and postgraduate studies), leaders and administrators of the professors, staff and researchers at the administrative offices, science laboratories and chemical stores as well as workers at field of the protection and university guards.

The planning and classification of such programs were achieved on the basis such as qualification of trainees, training hubs, training objectives, etc. As well as follow basis of organizational factors such as establishing of administrative units in all colleges and central committee at presidency of the university.

However, it became necessary to draw a road map for the steps and future orientations adopted by the university's policy to create a trained generations,

acquired with safety and security skills and how to deal with hazardous materials and keeping them from being misused, all of this would achieve the principle of partnership and community service, right up to the sustainable development and green future for next generations.

Keywords: Chemical Safety and Security, Training Programs, Future Directions

واقع السلامة والأمن الكيميائي في جامعة القاسم الخضراء والتوجهات المستقبلية

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الخلاصة:

بدأت جامعة القاسم الخضراء بعد عامين من تاريخ استحداثها (منذ عام ٢٠١٢)، بتبني برامج تدريبية حول السلامة والأمن الكيميائي والتعريف بأهمية هذا التخصص في تطبيقات ومجالات مختلفة من خلال تنسيق جهودها مع اللجنة المركزية للسلامة والأمن الكيميائي والبيولوجي والإشعاعي والنووي في جامعة بابل لعمل برامج تدريبية للكوادر برعاية رئيس جامعة القاسم الخضراء، كان أولها بتاريخ ١١/٢٣ - ٢٠١٤/١٢/٤، ومن ثم ربط تلك البرامج التدريبية مباشرة مع البرنامج العالمي للأمن الكيميائي برعاية مؤسسات عالمية مدنية مرتبطة بعصبة الأمم المتحدة، حيث تم تنفيذ (١٤) منها كبرامج أو ورش تدريبية في كليات وأقسام الجامعة.

في هذه الدراسة سيتم توضيح دور الجامعة الريادي بتبني مشاريع وبرامج وورش تدريبية مختلفة ومتنوعة حول السلامة والأمن الكيميائي لكوادرها المختلفة من طلبة دراسات أولية ودراسات عليا وقياديين وإداريين من أساتذة وموظفين وباحثين في المكاتب الإدارية والمختبرات العلمية والمخازن الكيميائية فضلا عن العاملين في مجال حماية المنشآت المدنية والحرس الجامعي.

تم تخطيط وتصنيف تلك البرامج على أساس عوامل عديدة أهمها مؤهلات المتدربين، محاور التدريب، أهداف التدريب.... الخ. فضلا عن إتباع أسس وعوامل تنظيمية إدارية كتأسيس وحدات إدارية في كليات الجامعة وشعبة ولجنة مركزية في رئاسة الجامعة تعنى بمتطلبات السلامة والأمن الكيميائي والبيولوجي والإشعاعي والنووي. من خلال ما تقدم، أصبح من الضروري رسم خارطة طريق لخطوات وتوجهات مستقبلية تتبناها سياسة الجامعة لخلق أجيال مؤهلة ومدربة مكتسبة مهارات السلامة والأمن الكيميائي وكيفية التعامل مع المواد الخطرة والحفاظ عليها من سوء الاستعمال، كل هذا من شأنه أن يحقق مبدأ الشراكة وخدمة المجتمع وصولا إلى حالة التنمية المطلوبة ومستقبل اخضر آمن نظيف للأجيال القادمة.

الكلمات المفتاحية: السلامة والأمن الكيميائي، برامج التدريب، برامج تحسين الامن الكيميائي، توجهات المستقبل

Introduction:

Generally, the weakness of chemical security level is due to the lack of equipments and required needs (such as security key locks, chemical

cabinets, chemical hoods, shower tools and eye washers, and modern chemical inventory system), and also the status of ignoring or mis-use of chemicals in an academia in scientific labs and chemical stores at the university ⁽¹⁾.

All the points that mentioned above are the expected security vulnerabilities which opening the door widely to uncontrolled harmful incidents as well as enabling terrorists to benefit from that uncontrolled situation and finally, they looking forward to targeted chemicals.

However, the training programs that followed by the university and teaching the staff and students about the requirements and conditions of the chemical security during their studies within or outside the university is one of the necessary things to prevent or minimize the incidents on human being and the environment or the incidents by terrorists, which are targeting the community and the country.

Therefore, It is through early organizational preparations for the CSIG programs in terms of identifying the requirements of the equipment and instruments (For example: safety storage cabinets, security key locks, chemical hoods, shower, eye washers, camera CCTV for monitoring, etc.), intended to raise the level of chemical security by preservation of specific places and locations (that is where the hazardous chemicals were stored) at the university colleges ⁽²⁾.

The main objective of the CSIG program is to provide devices and equipment intended to improve and raise the level of security of various chemical materials in the store and scientific laboratory in the university colleges through the preservation and maintenance of chemicals stored, away from any possible dangerous events ⁽³⁾.

The program aims to improve chemical security in the university colleges by preserving chemicals in secured and safe places away from the case of tampering and ignorance in dealing with them and keep them from the terrorists (such as cases of potential theft, diversion of hazardous, and toxic chemicals for nefarious purposes), on the other hand, follow-up and document the movement of these chemicals from the following stages: procurement, storage, and inventory, even after their used and consumed in practical experiments in the university laboratories.

Through the implementation of CSIG program after installation these instruments which will work in the future under trained staff of teachers/ researchers/ lecturers in labs or stores of colleges, therefore we will ensure the presence of high level for chemical security requirements which applied well in those places and also on the other hand, we will ensure the presence of well-trained level for workers in labs or stores (researchers, students, workers, administrators, guards, etc.) for the purpose of spreading the spirit of the culture and awareness of chemical security requirements from the top

of the educational pyramid and not only from the base (from teaching staff, already trained well on chemical security), or even at the community by the adoption of good ideas and the development of a sense of security⁽⁴⁾.

Results and Discussion:

The Safety and Security Division of Chemical, Biological, Radiological and Nuclear was established at the University Presidency in addition to the chemical safety and security units in each of the university faculties as well as the establishment of the Central Committee for Chemical Safety and Security. In order to be the whole process of the purchase, consumption and circulation of chemicals, biological, radiological and nuclear controlled by the university and thus good communication with the Ministry of Higher Education and Scientific Research.

Some of these training programs were funded by the American Civil Research and Development Foundation and in collaboration with the Chemical Security Program, which included distinct programs for Chemical Safety and Security Training (CSST) for leaders and staff; CSST for students (both of new and postgraduate students); and Chemical Security Improvement Grant (CSIG) as in Table (1) and Table (2) as a whole CSST and CSIG programs from 2014 until 2017.

Table 1. The CSST and CSIGs programs on behalf CSP and CRDF Global for Al-Qasim Green University from 2014 until 2017.

No	Program name	Date and Place
1	Chemical Security Enhancement Implementation	9-11 Nov, 2014 at Malaysia, Funded by CRDF Global and (CSP), Sandia National Laboratories.
2	Workshop on Chemical Safety and Security	13-17 Sep, 2015 at Istanbul-Turkey, funded by CRDF Global and US. (CSP).
3	Chemical Security	12-16 Oct, 2015 at US. New York, funded by CRDF Global and U.S. Department of State's Chemical Security Program (CSP) by Brookhaven National Laboratories, USA.
4	Iraqi chemical security	20-22 Oct, 2015 at US. New Mexico, On behalf of CSP, CRDF Global and Sandia National Labs, USA
5	Workshop on Supply Chain, Chemical Security and Risk Education for Chemicals	14-17 Dec, 2015 at Istanbul-Turkey, funded by CSP and CRDF Global.
6	Training Course of Chemical	20-31 Dec, 2015 at the University

	Security and Safety for the New College Students	Colleges, on behalf of CSP and CRDF Global.
7	Chemical Security Improvement Grants (CSIGs), Al-Qasim Green University.	April 2017 Funded by CRDF Global and approved by (CSP) Chemical Security Improvement Grant.
8	Chemical Security Training for Postgraduate Students	7-11 May, 2017 at Al-Qasim Green University, on behalf of CSP and CRDF Global.

Table 2. All CSST and CSIG programs at Al-Qasim Green University from 2014 until 2017.

No	Program name	Date and Place
1	Chemical Security Enhancement Implementation	9-11 Nov, 2014 at Malaysia, Funded by CRDF Global and (CSP), Sandia National Laboratories.
2	Training Course on Safety and Chemical Safety	23 Nov-4 Dec, 2014 at the Al-Qasim Green University for staff in cooperation with the Higher Committee for Safety and Chemical Safety, University of Babylon.
3	Workshop on Safety and Chemical Security	15-17 Feb, 2015 at College of Environmental Sciences for staff and lab managers.
4	Chemical Security	12-16 Oct, 2015 at US. New York, funded by CRDF Global and U.S. Department of State's Chemical Security Program (CSP) by National Brookhaven Laboratories, USA.
5	Iraqi chemical security	20-22 Oct, 2015 at US. New Mexico, Funded by CRDF Global and (CSP) and National Sandia Laboratories, USA.
6	Training Course of Chemical Security and Safety for the New College Students	20-31 Dec, 2015 at the University Colleges, funded by CRDF Global and (CSP).
7	Workshop on coordinating academic efforts in the field of safety and security of chemical,	23-24 Dec, 2015 at Babylon University

	biological, radiation and nuclear	
8	Chemical Safety and Security	16-18 Feb, 2016 at Agriculture College- Al- Qasim Green University.
9	The first national coordination conference for chemical and biological security	14-16 April, 2016, by University of Babylon.
10	Management of chemicals, biologics and radiation in Iraq between reality and ambition.	25 Oct, 2016 organized by the College of Biotechnology– Al-Qasim Green University.
11	Workshop on Chemical Safety and Security	13-17 Sep, 2015 at Istanbul-Turkey, funded by CRDF Global and US. (CSP).
12	Workshop on Supply Chain, Chemical Security and Risk Education for Chemicals	14-17 Dec, 2015 at Istanbul-Turkey, funded by CRDF Global and (CSP).
13	Chemical Security Improvement Grants (CSIGs), for Al-Qasim Green University.	Funded by CRDF Global and approved by CSP.
14	Chemical Security Training for Postgraduate Students	7-11 May, 2017 at Al-Qasim Green University-College of Agriculture.

From the other hand, for more details about the CSST and CSIG programs, the control of the tendencies and trends for the conscious educated youth (category of community: the students) is one of the benefits that envisaged from the providing of this equipment in order to increase their knowledge, skills, and understanding the chemical security practice and the surrounding environment in general.

The first beneficiary of the CSST programs is the society and the human with their surrounding environment, in particular the workers of staff and students at university and their colleges (at different places such as offices, halls, labs, and stores) which distributed in various scientific specializations in scientific departments of the university colleges.

While for CSIG program after completed, the equipment will applied and give the feeding back of directly benefit to chemical security level at the university and their colleges through preserving and maintenance the chemicals by using the specific cabinets with their security facilities and applied services, using the security key locks and modern inventory system with their facilities of secured monitoring and recorded inventory for chemicals at stores, labs,

and offices by experienced staff trained well. Thus it will provide a great opportunity for the exchange of knowledge and skills gained from the requirements of chemical security equipment among workers of researchers, professors, students, and workers of labs in optimal conditions

Aim of the CSIG program is to provide new equipment for chemical security is to enable different operators to understand and apply standard tools for the security of chemicals throughout the various stages of the tasks and duties, research, studies or even in society through the adoption of good ideas and the development of a sense of security in general.

This equipment gives us a direct impact and indirectly and also the impression to control the content monitoring and subsequent movement of chemicals from input until the output (from the cradle to the grave), in other words, put all chemicals in a systematic way in order to raise the level of chemical security at the university and community.

Finally, control of the youth conscious (class of society: the staff and students of the university) is one of the intended benefits of the project in order to increase their knowledge and understanding of advanced concepts applied in the chemical environment and security of locking in general ⁽⁵⁾.

From other view, the idea of CSST for students in the university and teaching them about the requirements and conditions of the chemical security during their studies within or outside the university is one of the necessary things to prevent or minimize the incidents on human being and the environment or the incidents by terrorists, which are targeting the community and the country.

Through the training of these educated category of people with higher educated degrees who will work in the future as lecturer/ teachers in colleges or leaders/ managers in departments/ sections and therefore we will ensure the presence of high level of chemical security requirements well be applied in those places and also on the other hand, we will ensure the presence of well-trained level for workers in the laboratories or sections (students, researchers, workers, administrators, guards, etc.) for the purpose of spreading the spirit of the culture and awareness of chemical security requirements from the top of the educational pyramid and not only from the base (from teaching staff, already trained well on chemical security).

However, the purpose behind this training is to enable the trainees to understand and apply the standards of chemical security throughout their studies or in the community by the adoption of good ideas and the development of a sense of security.

The control of the tendencies and trends for the conscious educated youth (category of community: postgraduate students) is one of the benefits that envisaged from the training in order to increase their knowledge and

understanding the concepts of chemical security and environment in general⁽⁶⁾.

The purpose behind the training of students is to enable them to understand and apply the standards of chemical safety and security throughout their studies or in the community by the adoption of good ideas and the development of a sense of security.

The control of the conscious youth (category of community: students of university) is one of the benefits that envisaged from the training in order to increase their knowledge and understanding the concepts of security, chemical safety, and environmental in general.

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