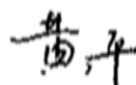


## 邀请参加国际原子能机构(IAEA) 活动通知单

发出单位	国家原子能机构国际合作司		共 1+9 页		
接收单位	发送: 中核核电运行管理有限公司、中国核电工程有限公司 抄送: 中核集团公司国际合作部				
活动名称	关于仪控方面的人因工程设计与分析专家咨询会				
活动地点	奥地利 维也纳	活动时间	2018年3月5日-3月9日		
费用来源	申请机构资助	工作语言	英语	推荐名额	1
报名截止日期	2018年1月9日				
随附通知或文件	机构通知				
报名提交材料	<p>请登陆 <a href="http://www.caea-com.net.cn">http://www.caea-com.net.cn</a> 从网上报名</p> <p>1、单位推荐函(可参考网上提供的模版, 右下角盖单位公章)</p> <p>2、IAEA 活动报名表(通知随附英文表)</p> <p>3、英语水平证明(语言等级证书或单位开具证明)</p> <p>注: 如无法通过网站报名, 请将以上材料通过传真或邮件发至以下联系人</p>				
联系人	<p>国家原子能机构国际合作司</p> <p>徐浩然</p> <p>电话: 010-88581027 传真: 010-88581516</p> <p>电子邮件: <a href="mailto:xuhaoran_caca@163.com">xuhaoran_caca@163.com</a></p> <p>通讯地址: 北京市海淀区阜成路甲八号(邮编: 100048)</p>				
备注	<p>参加机构活动人员, 必须于活动结束后两周内, 按照要求的格式和内容将活动情况总结发送到上述联系人的邮箱, 因故不能参会者应说明理由, 逾期不提交报告者或无故缺席会议者, 将不受理其下次参加机构活动的报名申请。</p>				

司授权签发人:



签发日期: 2018年1月4日

附件

### **参加机构活动总结报告的格式和内容要求**

一、活动名称。

二、本次活动背景。

三、参加本次活动的目的和意义。

四、活动过程介绍。

包括活动的具体日程安排和主要议题、参加人员情况、活动期间的发言、达成的目标、决议或共识、下一步拟开展工作与安排等内容。

五、结论及收获。

总结参加本次活动的收获及对后续工作的启发、建议。

六、附件。

提供与活动相关的材料，包括本次活动背景材料、活动期间的发言或汇报材料、讨论和决议材料等。

**报告日期：**

**报告人姓名：**

**单位名称：**

**电话：**

**传真：**

**电子邮件：**



Atoms for Peace

الوكالة الدولية للطاقة الذرية

国际原子能机构

International Atomic Energy Agency

Agence internationale de l'énergie atomique

Международное агентство по атомной энергии

Organismo Internacional de Energía Atómica

HE Mr Shi Zhongjun  
 Resident Representative  
 Permanent Mission of the People's Republic of  
 China to the IAEA  
 Steinfeldgasse 3  
 1190 VIENNA  
 AUSTRIA

Vienna International Centre, PO Box 100, 1400 Vienna, Austria  
 Phone: (+43 1) 2600 • Fax: (+43 1) 26007  
 Email: [Official.Mail@iaea.org](mailto:Official.Mail@iaea.org) • Internet: <http://www.iaea.org>

In reply please refer to: EVT1703424  
 Dial directly to extension: (+43 1) 2600-21982

2017-12-28

Excellency,

I have the honour to inform you that the International Atomic Energy Agency (IAEA) requires consultants' advice on **Instrumentation and Control Aspects of Human Factors Engineering: Design and Analysis** at the IAEA's Headquarters in Vienna, Austria, from **5 to 9 February 2018**.

The purpose of the consultancy assignment is described in the attached Terms of Reference.

In this regard, I should be grateful if your Government would make available the services of:

- Mr Gongzhan Wang, Third Qinshan Nuclear Power Co., Ltd. (TQNPC), Haiyan Zhejiang 314300, China (Email: [wanggz@cnp.com.cn](mailto:wanggz@cnp.com.cn)); and
- Ms Guangwei Yu, China Nuclear Power Engineering Co., Ltd. (CNPE), P.O. Box 840, 1 Mashenmiao, Beijing 100840, China (Email: [bjnc04@sina.com](mailto:bjnc04@sina.com)) for this assignment.

The IAEA will provide Mr Wang with a lump sum equivalent to €3230 for the travel expenses to and from Vienna, for living expenses, including incidentals, connected with the assignment. The consultant would then be fully responsible for making the necessary travel arrangements and for cancellation costs, if any. This amount has been calculated on the assumption that the consultant will stay for the total duration of the assignment. Should this not be the case, the consultant would be requested to reimburse the IAEA for the appropriate difference.


We understand that all expenses incurred in connection with Ms Yu's services will be paid by her authorities.

It should be noted that compensation is not payable by the IAEA for any damage to or loss of personal property. The IAEA also does not provide health insurance coverage for participants in meetings, workshops or training courses or for consultants. Arrangements for private insurance coverage on an individual basis should therefore be made. The IAEA will, however, provide insurance coverage for accidents and illnesses that clearly result from any work performed for the IAEA.

Page 2

It would be appreciated if your Government's confirmation could reach the IAEA not later than **15 January 2018**. Mr James Eller of the Division of Nuclear Power (Email: [J.Eller@iaea.org](mailto:J.Eller@iaea.org)) is the responsible officer who will contact the consultants directly concerning further arrangements.

Accept, Excellency, the assurances of my highest consideration.



Dohee Hahn  
Director  
Division of Nuclear Power  
Department of Nuclear Energy

Enclosure: Terms of Reference



**IAEA**  
International Atomic Energy Agency

# **Consultancy Meeting on Instrumentation and Control Aspects of Human Factors Engineering (HFE): Design and Analysis**

**IAEA Headquarters  
Vienna, Austria**

**5-9 February 2018**

**Ref. No.: EVT1703424**

## **Terms of Reference**

### **A. Introduction**

Nuclear power plant personnel play a vital role in a safe, efficient, and productive generation of power. Personnel performance and the resulting plant performance is influenced by many aspects of plant design, including the level of automation, personnel training, and the human-system interfaces (HSIs) provided for personnel to interact with the plant.

HSIs are becoming more computer based, incorporating features such as soft controls and computerized procedures, touch-screen interfaces, sit-down workstations and large screen overview displays. While modern plant HSI designs can greatly improve personnel and plant performance, it is important to recognize that, if poorly planned, designed or implemented, there is the potential to negatively impact performance and maintainability for both the equipment and the worker and to reduce human reliability, resulting in a detrimental effect on safety and cost effective power production. Human factors engineering (HFE) is needed to ensure that the benefits of the technology are realized and problems with its implementation are minimized. A structured approach and guidance on HFE in the design and modification of human-system interfaces needs to be followed in order to minimize the risk of human errors and optimize human performance.

IAEA NSNI has prepared the new Safety Guide DS-492 "Human Factors Engineering in the Design of Nuclear Power Plants". The safety guide focuses on recommended designs but not on implementation issues. The subject NES report will provide specific, detailed

guidance on the implementation of I& C design aspects of human factors engineering.

## **B. Objectives**

The objective is to produce a new NE Series (NES) report to assist Member States in the design and analysis of human-system interfaces for NPP applications.

The goal of the document is to provide an overview on the current knowledge, up to date best practices, experiences, benefits and challenges related to the design of human-system interfaces taking into account the most up-to-date human factors engineering principles. The report will elaborate on specific areas of the design and analysis in a detailed, practical manner.

This publication will be prepared for I& C experts in the field of design, development, licensing, implementation, and operation of nuclear power plant human-system interfaces, as well as for general audiences who intend to learn about the process.

## **C. Target Audience**

Participants should have a broad scale experience in the I& C aspects of human factors engineering analysis and design. Hands-on, tangible knowledge is preferred in the subject area.

## **D. Working Language(s)**

English

## **E. Venue**

The Consultancy Meeting will be held at the IAEA's Headquarters in Vienna, Austria specifically in Meeting Room M0E10 of the Vienna International Centre (VIC), and will start on **Monday, 5 February 2018**. Participants are advised to arrive one hour prior to the convening time of the Consultancy Meeting to allow for timely registration. Participants will need to present an official photo identification document in order to be admitted to the VIC premises.

The following IAEA web page can be accessed for more detailed information on Vienna and the VIC : <http://www-pub.iaea.org/iaea meetings/GeneralInfo/Guide/VIC>

## **F. Visas**

Participants who require a visa to enter Austria should submit the necessary application to the nearest diplomatic or consular representative of Austria at least four weeks before they travel to Austria. Since Austria is a Schengen State, persons requiring a visa will have to apply for a Schengen visa. In States where Austria has no diplomatic mission, visas can be obtained from the consular authority of a Schengen Partner State representing Austria in the country in question

## **G. Organization**

**Scientific Secretary**

**Mr Janos Eller**

Division of Nuclear Power  
Department of Nuclear Energy  
International Atomic Energy Agency  
Vienna International Centre  
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AUSTRIA  
Tel.: +43 1 2600 21982/22804  
Fax: +43 1 26007  
Email: J.Eiler@iaea.org

**Administrative Secretary****Ms Olga Glöckler**

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Department of Nuclear Energy  
International Atomic Energy Agency  
Vienna International Centre  
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1400 VIENNA  
AUSTRIA  
Tel.: +43 1 2600 22804/22799  
Fax: +43 1 26007  
Email: O.Gloeckler@iaea.org

Subsequent correspondence on scientific matters should be sent to the Scientific Secretary/Secretaries and correspondence on other matters related to the event to the Administrative Secretary/Secretaries.



**IAEA**  
International Atomic Energy Agency

# **Consultancy Meeting on Instrumentation and Control Aspects of Human Factors Engineering (HFE): Design and Analysis**

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