**INTERNATIONAL ATOMIC ENERGY AGENCY**

**TECHNICAL CO-OPERATION & ASSISTANCE PROGRAMME**

**EXPERT REQUEST FORM**

**N.B: this request form must be submitted to the IAEA at least 3 months prior to expected mission dates**

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| **ADMINISTRATIVE MATTERS** | |
| Project code: | BNPP-2 |
| Project title: | Bushehr-2 Nuclear Power Pant |
| Title of mission: | Expert Mission on Design the intake, discharge and cooling systems of NPP (civil structures) |
| Duty station: |  |
| Administrative (including VISA Support) contact person:  (specify address, phone and E-mail) |  |
| Technical contact person:  (specify address, phone and E-mail) |  |
| Duration of mission: |  |
| Venue date proposal (provide 2): |  |
| Expected breaks and working hours during mission: |  |

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| **TECHNICAL CONTEXT** | |
| Context of the mission – why is it needed:  (add a justification for the request of the expert mission e.g. To support national project, IAEA project) | Due to the importance of design of cooling seawater intake and discharge and effect of it on the operation on power plant, it is needed the requirement, criteria and procedure of work to be defined. |
| Expected outcomes – what is needed: | 1. Protection measures for preserve marine Environment (methodology, executed plan and etc.) 2. Type of analyses needed for designing of the marine water intake and discharge structures 3. Numerical model verification and validation methods and instructions for water intake and discharge structures and process 4. Program/Procedure of Physical model design 5. Analysis and Assessed changing calculation study also pollution dispersion modeling based on Persian Gulf environment 6. Design criteria and requirements of intake and discharge channel 7. Environmental information and analysis required for the design of intake and discharge 8. Monitoring types and requirements needed for Water intake basin and channel, and water discharge structures 9. Minimum return period needed for water waves and currents loading on NPPs marine structures in accordance with NPP life-time 10. Standard methods and procedures for determination of long-term wave parameters (e.g. height, period, length) and see water fluctuation 11. Methods and basis of the wave-structure interaction physical modelling, including the dominant phenomenon affecting on the water intake and discharge process. 12. Methods and instruction for determination of water intake and discharge process risks. 13. Basis for selection of forms and types of water intake and discharge method and related structures 14. Required reports and documents for design of intake and discharge 15. Required reports and documents for construction and execution of intake and discharge 16. Procedure for Validation of sea cooling water intake and discharge 17. Procedure for design approval |
| Expected number of attendees (people attending the mission): | At least 8 |
| Level of the audience (specify the technical background and the professional experience of the attendees) | Specialist and Engineer |
| **EXPERT MATTERS** | |
| Number of Expert/s expected: | At least 4 |
| Field of Expertise | Fluid Mechanics, Coastal & Maritime Engineering |
| Duties: |  |
| Qualification of expert: | EXPERT |
| Acceptable working language of expert: | English |
| **If specific expert is suggested, please indicate the name and address. This does not mean that the expert will be automatically considered for the mission**. | |
| Name: Prof. Eric Damgaard Christensen, Head of Fluid Mechanics, Coastal & Maritime Engineering Section, DTU.  Telephone:  E-mail and Address: [edch@mek.dtu.dk](mailto:edch@mek.dtu.dk)  Name: Dr.Claus Pedersen, DHI.  Telephone:  E-mail and Address: [clp@dhigroup.com](mailto:clp@dhigroup.com)  Prof. Patriachi, NSW University, Australia | |