



PAKISTAN ATOMIC ENERGY COMMISSION

P.O. Box No. 1114

ISLAMABAD

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**Syed Shaukat Hasan**

Director General

International Affairs & Training



Off : 92-51-9201862  
Cell : 92-302-8500784  
Fax : 92-51-9204908

**Ref. No. IA-10(10)/2014**

**Date: 17-04-2015**

Subject: **Review of Draft (DS-452) "Decommissioning of Nuclear Power Plants, Research Reactors and other Nuclear Facilities"**

Dear Mr. Vladan Ljubenov,

Please refer to IAEA's letter No. J5.05 dated 18-12-2014 and on the above subject. Some changes and additions have been suggested in the text, as per attachment, for Agency's consideration accordingly.

Yours sincerely,

(Syed Shaukat Hasan)

Encl: As above

✓  
Mr. Vladan Ljubenov,  
Department of Nuclear Safety & Security  
International Atomic Energy Agency (IAEA)  
Vienna (Austria)

|                    |              |
|--------------------|--------------|
| <b>INFORMATION</b> |              |
| 30 APR 2015        |              |
| ORIGINAL<br>TO:    | LJUBENOV, V. |
| ENCLOSURES         | COMMENTS     |

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30 APR 2015

| COMMENTS BY REVIEWER                |               |   |  | RESOLUTION |                                  |          |                                   |
|-------------------------------------|---------------|---|--|------------|----------------------------------|----------|-----------------------------------|
| Reviewer:<br>Country/Organization:- |               | Page 01 of 03.<br>Date:   |  |            |                                  |          |                                   |
| Comments No.                        | Para/Line No. | Proposed new text   | Reason   | Accepted   | Accepted but modified as follows | Rejected | Reason for modification/rejection |
| 01.                                 | Contents      | • Appendix I  | Numbering of Appendix should continue i.e. Annex replaced by Appendix                |            |                                  |          |                                   |
| 02.                                 | 1.1/04        | • Other factors such as accidental shutdown ...                                 | Accidental shutdown should be included in the list of factors for decommissioning.   |            |                                  |          |                                   |
| 03.                                 | 1.2/03        | • Is the last stage of the lifetime of a facility,                              | For sentence clarity,  |            |                                  |          |                                   |
| 04.                                 | 1.2/05        | • Throughout the lifetime of a facility and planning/designing phase as well    | Planning of decommissioning should start from planning/designing phase of a facility |            |                                  |          |                                   |
| 05.                                 | 1.3/06        | • That the facility's design meets with the planned decommissioning procedures. | For sentence clarity   |            |                                  |          |                                   |
| 06.                                 | 1.7/01        | • Decommissioning actions are required ..                                       | Plural sentence  |            |                                  |          |                                   |
| 07.                                 | 1.18/05       | • Address non-radiological hazards...   | Non-radiological hazards at-least mentioned, if possible.                            |            |                                  |          |                                   |
| 08.                                 | 2.10/01       | • Place the heading on the start of next page                                   | Formatting, if possible  |            |                                  |          |                                   |

|     |         |  |  |  |  |  |  |
|-----|---------|--|--|--|--|--|--|
| 09. | 2.12/17 | <ul style="list-style-type: none"> <li>Financial resources for decommissioning.</li> <li>Machinery and tools cost.</li> </ul>                                | The grading of these items is also mandatory for decommissioning.  |  |  |  |  |
| 10. | 2.16/01 | <ul style="list-style-type: none"> <li>Place the heading on the start of next page</li> </ul>  | Formatting, if possible  |  |  |  |  |
| 11. | 3.01/04 | <ul style="list-style-type: none"> <li>Responsibilities of contractors and sub-contractors.</li> </ul>   | Contractors and sub-contractors both have some responsibilities during decommissioning. So these should also be defined.   |  |  |  |  |
| 12. | 4.12/12 | <ul style="list-style-type: none"> <li>Industrial Safety</li> <li>Safe guards/Security for radioactive material.</li> <li>Emergency Preparedness.</li> </ul> | Experts from these areas should also be included In management team.   |  |  |  |  |
| 13. | 7.21/02 | <ul style="list-style-type: none"> <li>Waste Management and treatment plan.</li> <li>Industrial safety plan.</li> </ul>                                      | Both plans should be incorporated in final decommissioning report for large decommissioning projects as well as small one. |  |  |  |  |
| 14. | 7.29/03 | <ul style="list-style-type: none"> <li>Survey the facility prior to Ph-I in immediate decommissioning strategy)</li> </ul>                                   | First survey the facility to estimate the quantity and quality of radioactive and non-radioactive material.                |  |  |  |  |
| 16. | 7.39/03 | <ul style="list-style-type: none"> <li>Survey the facility prior to Ph-I in deferred decommissioning strategy.</li> </ul>                                    | First survey the facility to estimate the quantity and quality of radioactive and non-radioactive material.                |  |  |  |  |

|     |         |  |   |  |  |  |  |
|-----|---------|--|---|--|--|--|--|
| 17. | 8.02/07 | <ul style="list-style-type: none"> <li>• Criticality and other safety assessment systems.</li> </ul> | Other safety assessment systems like Dose Rate Area Monitors and Fire Detection Systems should be included in list of SSCs that have to be removed or isolated. |  |  |  |  |
| 18. | 8.09/21 | <ul style="list-style-type: none"> <li>• Secondary Radioactive waste</li> </ul>                      | Explain the Secondary radioactive waste type  |  |  |  |  |
| 19. | 8.24/04 | <ul style="list-style-type: none"> <li>• Environmental Safety</li> </ul>                             | Such as: Environmental impact ...   |  |  |  |  |