



ಹಿರಿಯ ಉಪನಿರ್ದೇಶಕರು  
ಹೆಚ್.ಬಿ. ಬೆಂಗಳೂರು

## MEMORANDUM OF UNDERSTANDING

MEMORANDUM OF UNDERSTANDING (MoU) BETWEEN CENTRAL POWER RESEARCH INSTITUTE (CPRI), BANGALORE and Malaviya National Institute of Technology (MNIT) Jaipur for the project on "Study of Metallurgical Aspects of Nitronic Steel for Under Water Part Applications" under RSOP scheme of Ministry of Power (herein after referred to as MoP), Government of India.

This MoU regarding the Research Scheme on Power for R and D in Indian Power sector, titled "Study of Metallurgical Aspects of Nitronic Steel for Under Water Part Applications" (herein after referred to as the "Project") is made for execution of the project on this 09<sup>th</sup> December 2011 between parties, namely,

**Central Power Research Institute** a society registered under the Karnataka societies registration Act, 1960 (Karnataka Act No.17 of 1960) having its Head Office at Sir C.V. Raman road, Sadashivanagar, Bangalore - 560 080, hereinafter referred to as CPRI in short which expression unless repugnant to the context shall mean and include their successors and assigns.

And

**Malaviya National Institute of Technology Jaipur** having its office at, Jaipur (herein after referred to as in short, MNIT Jaipur the **Project Implementing Institution** which expression shall where the context so requires or admits, be deemed to include its successor and permitted assignees).

It is agreed by and between the parties that the project would be executed jointly within the following Objective and scope of the project and the responsibilities of each of the implementing agencies

### 1. DEFINITIONS

a	RSOP means Research Scheme on Power
b	'Project Implementing Organization' shall mean MNIT Jaipur responsible for implementing the project "Study of Metallurgical Aspects of Nitronic Steel for Under Water Part Applications" as per the approved project proposal

J. Sundarajan

Mr. Kutty

Marlene B. S. S.



209

c	'Funding Organization' shall mean MoP supporting the project financially.
d	'Project' means RSOP Project "Study of Metallurgical Aspects of Nitronic Steel for Under Water Part Applications "
e	'Coordinating Organization' means CPRI, coordinating various activities of the project with project implementing organization and funding organizations on behalf of Ministry of Power, Government of India.
f	Expert Committee (EC) on Research Scheme on Power will be hereinafter called EC-RSOP. Director General, CPRI is the Chairman of EC-RSOP Committee and Head, R&D management Division, CPRI is the convener. EC-RSOP is constituted by Director General CPRI. EC-RSOP shall review the progress of the project.
g	'Parties' refer to the organizations participating in the project namely <b>CPRI and MNIT Jaipur</b>

## 2. Objectives and Scope of the Research project

The main objective of the proposed work is to develop the following items. To:

1. Identify suitable compositions of steel for underwater parts applications.
2. Identify suitable heat treatment cycle for obtaining desired microstructure and mechanical properties.
3. Study various phases present in the microstructure and their impact on the desired properties of nitronic steel.
4. Perform erosive wear study on the developed steel.

## 3. FINANCIAL OUTLAY OF THE PROJECT

3.1 This project is funded by MoP under RSOP scheme. The total approved financial outlay of the project as per approved proposal is Rs **28.80** Lakhs

3.2 The head wise break-up of the total project cost is given in approved project proposal, which is part of this document as an **Annexure - I**.

## 4. PROJECT SCHEDULE

4.1 The project shall be completed in **Three years** with the major milestones and the expected time schedule for the same as given in the Project schedule and other details as per approved project proposal in **Annexure - I**.

J. Sundar Raju

Shorena Basu



7.7 CPRI will facilitate to get necessary approvals from Central Government under section 35 of IT act towards expenditure incurred on scientific research.

7.8 Head R&D Management Division shall be the contact person for all matters concerning the project.

**8. ROLE AND RESPONSIBILITIES OF PROJECT IMPLEMENTING ORGANIZATION: Malaviya National Institute of Technology Jaipur**

8.1 MNIT Jaipur shall make arrangements for proper operation and maintenance of equipments procured under the project. MNIT Jaipur shall acknowledge procurement of equipments under this project by a 'TRUST RECEIPT' which is given in Annexure - II, to this document.

8.2 MNIT Jaipur shall ensure that funds released are utilized only for the purpose of the Project.

8.3 MNIT Jaipur shall provide free access to CPRI officers and EC-RSOP members and their representatives to all facilities/assets and records relating to the project located at their works.

8.4 MNIT Jaipur shall meet the expenditure towards local hospitality and local transport of EC-RSOP members / CPRI officials / its representatives, from the funds provided by CPRI for this project, when the review meetings are held at **Malaviya National Institute of Technology, Jaipur.**

**9. PROGRESS REVIEW & QUARTERLY PROGRESS REPORTS (QPR)**

9.1 Nodal Officer from CPRI will be responsible for monitoring the progress of the project.

9.2 Monthly progress of the project shall be furnished as per Annexure - III.

9.3 It is the responsibility of Principal Investigator and Co Investigator to furnish the progress (Technical and Financial) of the project for each quarter with in a month after completion of the quarter. For the purpose of furnishing quarterly reports, the 1<sup>st</sup> quarter starts in April of every financial year. The Quarterly progress Reports (QPR) are to be furnished in the prescribed formats (Forms 3 & 4) for reporting technical and financial progress.

J. Sundar Raju

Harne B...

## 5. MODE OF FINANCING

5.1 The approved cost of the project is Rs **28.80** Lakhs. The project cost will be funded by MoP through the coordinating agency namely CPRI.

5.2 In case the project gets completed in less than the approved cost of Rs **28.80** Lakhs, the unutilized amount shall be refunded to CPRI.

## 6. RELEASE OF FUNDS

6.1 Release of 1<sup>st</sup> installment of funds shall be arranged by CPRI after signing of MOU and after due confirmation of the commitment to Project schedule

6.2 Release of subsequent installment of funds by CPRI will be subject to satisfactory progress of the project. This is also subject to complete utilization of funds released earlier.

## 7. ROLE AND RESPONSIBILITIES OF PROJECT COORDINATING ORGANIZATION - CPRI

7.1 CPRI will monitor and steer the project for its successful completion.

7.2 CPRI shall maintain a separate account for the funds released by MoP for execution of this project.

7.3 CPRI shall nominate one nodal officer for this project. The nodal officer shall work with Head, R & D Management Division of CPRI. He/she shall have detailed knowledge regarding technical and implementation status and issues being resolved in this project.

7.4 CPRI would release the funds to **MNIT Jaipur** for execution of the project depending upon the financial, technical and physical progress of the project and recommendations of the nodal officer.

7.5 CPRI will ensure that the funds released will be utilized **MNIT Jaipur** only for the purpose of the project for which it is released.

7.6 CPRI would be free to use the equipments/facilities; software's procured/developed for any scientific work or technology development/ demonstration purpose on their own or can request Director, **MNIT Jaipur** for use of this infrastructure by any other organization/agency or manufacturer for scientific technology development/demonstration purpose.

J. Sundar Raju

Moume B. B. B.



### 13. PROJECT COMPLETION & TECHICAL REPORT

13.1 The Project implementing Institution shall make a presentation to the EC-RSOP once the project is completed. Prior to this, CPRI will scrutinize and analyze the final results of the project and give a report to the Expert Committee. The abstract of the completion report shall be submitted in Form 5

13.2 The EC-RSOP finally declares that the project is completed with the deliverables as stipulated in the original project proposal. The Principal investigator shall submit **four copies of Technical report along with a soft copy in CD** to CPRI within one month of the completion of the project (Form No. 7). The Principal investigator shall also furnish the Feedback (form 9) and project evaluation (form 10) along with Technical Report.

### 14. MANDATORY OBLIGATIONS

14.1 It is obligatory on the part of **Malaviya National Institute of Technology Jaipur** to ensure free access to EC-RSOP members, Review Committee Members / CPRI officials / its representatives to all facilities/assets and records relating to the project located at their works.

14.2 All research publications based on this project shall be made jointly in the names of the scientists / investigators / innovators of **Malaviya National Institute of Technology Jaipur and CPRI** members making scientific contributions to research project.

14.3 **MNIT Jaipur** shall duly acknowledge CPRI for funding this project in all publications, reports, publicity, presentations materials etc.

14.4 None of the parties including EC-RSOP members shall transfer technology or information on technology to any third party without the consent of **CPRI and MNIT Jaipur**.

14.5 **MNIT Jaipur** shall furnish all deliverables of the project such as full documentation pertaining to development, design, detailed specification of all components and material manufacturing process, sourcing of material, test results etc. to CPRI.

14.6 **MNIT Jaipur** shall furnish all details documents/test reports etc. as required for registration of patent.

J. Sundar Rajad

Marlene B. ...



## 10. Monitoring of RSOP

10.1 Technical and financial progress of RSOP projects are monitored and coordinated by the R&D Management Division of CPRI.

10.2 Progress of the projects are reviewed by the CPRI Nodal Officers/officers of R&D Management Division at respective investigating organizations

10.3 Based on the recommendations of CPRI nodal officers and satisfactory Progress of Project, Head, R&D Management Division shall recommend release of funds.

## 11. Review of RSOP by EC-RSOP

11.1 DG CPRI will constitute the EC-RSOP.

11.2 EC-RSOP shall review and steer the implementation of RSOP projects for successful completion of the project.

11.3 The EC-RSOP will meet at least once in six months to review the progress of project.

## 12. FUND UTILIZATION CERTIFICATE (UC)

12.1 Before the release of subsequent grant, **Malaviya National Institute of Technology Jaipur** shall submit the Fund Utilization Certificate for the released amount at the end of each financial year and also an interim UC with any intermediate request for release of fund.

12.2 Satisfactory technical progress and submission of progress reports and utilization Certificates (Forms 3, 4 and 6) are pre-requisites for release of next installment for the project.

12.3 All Utilization Certificates indicating the financial statements shall be audited and certified by "Accounts" Officer of the Institution or by authorized "Auditors".



14.14 The grants-in-aid should not be a source of profit. If after examination of the Audited Accounts, Ministry comes to the conclusion that the grants-in-aid have been source of profit, then **Malaviya National Institute of Technology Jaipur** shall forthwith refund the amount of grants-in-aid to Government of India.

14.15 **MNIT Jaipur** may keep all the economy instructions in view while incurring the expenditure. The organization shall not incur any expenditure on those items, the purchase of which items have been banned.

14.16 In the event of **Malaviya National Institute of Technology Jaipur** failing to comply with the conditions or committing breach of the conditions, **Malaviya National Institute of Technology Jaipur** shall be jointly and severally liable to refund to the President of India the whole or a part of the grant with interest.

14.17 Penal interest is chargeable if the fails to furnish progress report/audited statement of Accounts/Audited Utilization certificate **Malaviya National Institute of Technology Jaipur** etc within the specified period after release of grants in the event of short closure of the project due to non technical reasons.

14.18 In the event of short of closure of the project **Malaviya National Institute of Technology Jaipur** will be liable for refund of the entire amount released. In this regard the decision of the EC-RSOP will be binding on **Malaviya National Institute of Technology Jaipur**

## 15. PROJECT REORIENTATION

15.1 The scope and the work/activities of the project can be re-orientated without deviating from broad objective and scope of the approved project, based on the recommendations of nodal officer and approval of EC-RSOP

## 16. COST AND TIME OVER-RUN

16.1 **MNIT Jaipur** shall inform EC-RSOP in advance about the possible time and cost over run of the project with due justification for the same.

16.2 Additional cost if any towards the project will be borne by **MNIT Jaipur**

16.3 In the event of any technical problems beyond the control of **MNIT Jaipur** in completing the project the same shall be discussed with nodal officer and subsequently taken up with EC-RSOP.



14.7 The assets acquired / created wholly or substantially by **MNIT Jaipur** out of Government grants except those declared as obsolete and unserviceable or condemned in accordance with the procedure laid down in the G.F.R. shall not be disposed off encumbered or utilized for the another purpose/project, without obtaining the prior approval of the authority which sanctioned the grants. In case of winding up or dissolution of the organization all the assets acquired to that effect out of the grants-in-aid by the Ministry should be returned forthwith to the Government of India.

14.8 The Utilization Certificate in respect of utilization of grants for the purpose/object for which it was sanctioned should be furnished by **Malaviya National Institute of Technology Jaipur** with an audited statement of accounts, within twelve months of the closure of the financial year. The utilization certificate should also disclose whether the specified, quantified and qualitative targets that should have been reached against the amount utilized, were in fact reached, and if not the reasons thereof. They should contain an output based performance assessment.

14.9 **Malaviya National Institute of Technology Jaipur** shall be required to maintain subsidiary accounts of the Government grant and furnish to the Accounts Officer a set of audited statement of accounts after utilization of the grants-in-aid or whenever called for.

14.10 The annual report and audited accounts of **Malaviya National Institute of Technology Jaipur** will have to be submitted to the Ministry in Hindi & English in required quantities by the grantee to be laid on the table of the both Houses of Parliament within 9 months of the close of the succeeding financial year of the grantee if the non-recurring grant is Rs.50 lakhs and above as one assistance.

14.11 The accounts of the grants are open to check and shall be audited by the Comptroller and Auditor General of India in accordance with the provisions laid down in Section 14 of the Comptroller and Auditor General, Ministry of Power whenever the institution is called upon to do so.

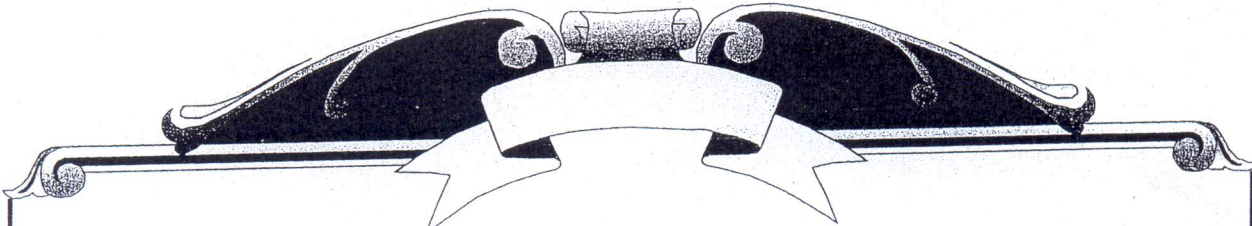
14.12 **MNIT Jaipur** is required to submit performance-cum-achievement reports within a period of one month after the end of the financial year.

14.13 No expenditure over and above the sanctioned grant shall be incurred by the **Malaviya National Institute of Technology Jaipur** without obtaining the prior approval of the Ministry of Power. Further in no case the expenditure on any scheme should exceed the sanction cost of the respective scheme and monthly targets of expenditure.

J. Sundar Singh

M. K. Singh





**20. CONFIDENTIALITY**

20.1 During the tenure of the MoU and thereafter for 2 years or the validity of patent whichever is longer, CPRI, **Malaviya National Institute of Technology Jaipur** and **EC-RSOP** members shall undertake on their behalf and behalf of their employees/ associates to maintain strict confidentiality and prevent disclosure thereof of all the information and data exchanged/generated pertaining to work under this MoU.

**21. STATUTORY REQUIREMENTS**

21.1 All aspects of this Research and Development work will be carried out in accordance with statutory provisions like Workmen's Compensation Act, Labour (Regulation and Abolition) Act, Contract Labour (Regulation and Abolition) Act, employees Provident Act or any other related enactment passed by the Parliament or State Legislature and any rules/laws made there under by the either Central or respective state Governments.

21.2 This MoU shall not be used as a general MoU between CPRI and **Malaviya National Institute of Technology Jaipur** since this MoU is specific only to implementation of the approved RSOP scheme for the project on "**Study of Metallurgical Aspects of Nitronic Steel for Under Water Part Applications**"

21.3 Since the project is sanctioned to **MNIT Jaipur** it shall not be transferred to any other Institution. Transfer of project money within the Institution or with other Institutions under the same Management is not permitted under any circumstances.

21.4 If the force majeure conditions continue beyond six months, the signatories shall then mutually decide about the future course of action.

**22. FORCE MAJEURE**

22.1 None of the participating agencies / bodies shall be held responsible for non-fulfillment of their respective obligations under this contract due to the exigency of one or more of the force majeure events such as but not limited to Acts of God, war, natural calamities such as flood, earthquakes etc and strike, lockout, epidemics, riots, civil commotion etc. provided on the occurrence of cessation of any such events, the party affected thereby shall give a notice in writing to the other party within one month of such occurrence or cessation.

*J. Sundar Raju*

*Marina S. Saini*





## 17. KNOWLEDGE DISSEMINATION

17.1 The information on technologies / products developed as part of RSOP scheme is currently available on CPRI website (<http://www.cpri.in>). A work shop or Symposium conference/Tutorial shall be organized by the investigating agency to disseminate the knowledge gained by the research findings. A report on this shall be sent to CPRI.

## 18. PROJECT COMPLETION REPORT

18.1 **MNIT Jaipur** shall submit draft project report within two months from the date of actual completion of technical work to CPRI. After necessary modifications, based on suggestions from review experts, the final report shall be submitted by **MNIT Jaipur** within one month.

18.2 **MNIT Jaipur** shall forward four copies of the final report to CPRI. The report shall include complete technology parameters, so that the document can serve as Technology Transfer Document.

18.3 The Project shall be deemed to be completed when the Expert Committee certifies to the effect in writing and is accepted by Chairman EC-RSOP.

## 19. PATENT AND TECHNOLOGY TRANSFER MECHANISM

19.1 CPRI and **MNIT Jaipur** will jointly patent the Product/Technology/Process developed. The patent will be applied in the name of individuals identified by CPRI and **MNIT Jaipur** and the patent rights will vest jointly with CPRI and **MNIT Jaipur**. The expenditure towards patent shall be borne by **MNIT Jaipur** and shall not be booked to project cost.

19.2 Technology transfer fees and Royalty shall be decided by mutual consent of CPRI and **Malaviya National Institute of Technology Jaipur** after achieving key milestones.

19.3 Transfer of technology to a third party shall be allowed with mutual consent between CPRI and **Malaviya National Institute of Technology Jaipur** and all commercial benefits such as royalty shall be available to CPRI and will **Malaviya National Institute of Technology Jaipur** be equally shared.

J. Sundara Raju

Mohammed Baer



### 23. VALIDITY OF AGREEMENT

23.1 The MoU comes under immediate force on the date of signing and is valid for 5 (Five years) years, from the date of completion of project or **till grant of patent rights**, whichever is later. It may, if required, be extended with mutual consent of the parties.

### 24. AMENDMENTS TO THE MoU

24.1 No amendment or modification of this MoU shall be valid unless the same is made in writing by all the parties or their authorized representatives and specifically stating the same to be an amendment of this MoU. The modifications / changes shall be effective from the date on which they are made / executed, unless otherwise agreed to.

### 25. RESOLUTION OF DISPUTES

25.1 In the event of any dispute or any difference among the parties, such disputes or differences shall be resolved amicably by mutual consultation or through the good offices of the Director General, CPRI and **MNIT Jaipur**.

25.2 In the event of any dispute between the parties to this Memorandum of understanding, it will be resolved as per the Indian Arbitration and Conciliation Act 1996.

### 26. FINANCIAL SETTLEMENT

26.1 In the event of termination of the MoU vide the rights and obligations of the parties hereto shall be sealed by mutual decisions; the financial settlement shall take into consideration not only the expenditure incurred but also expenditure committed by the parties pertaining to the project.

### 27. JURISDICTION

27.1 The courts at **Bangalore** shall have jurisdiction in any matter arising out of the arbitration proceedings or any award made therein.

J. Sundara Raju

Shri. R. S. Rao



## Annexure I

(1) Copy of the Approved Project Proposal: ENCLOSED

(2) Faculty working in this project:

1. Prof Dr. Ashok Sharma –PI  
Dept. of Metallurgical & Materials Engg.  
Malaviya National Institute of Technology Jaipur  
JLN Marg, Jaipur-302017 (Rajasthan)  
Ph. No. 0141-2713343(O)  
Mob: +91-9414062919  
Email: [ashok.mnit12@gmail.com](mailto:ashok.mnit12@gmail.com) , [ashoksharma@mnit.ac.in](mailto:ashoksharma@mnit.ac.in)

2. Prof. Dr. C.P. Sharma--- CI  
Dept. of Metallurgical & Materials Engg.  
Malaviya National Institute of Technology Jaipur  
JLN Marg, Jaipur-302017 (Rajasthan)  
Ph. No. 0141-2713365 (O)  
Mob: No. +91- 9413902367  
Email: [cpus@rediffmail.com](mailto:cpus@rediffmail.com)

(3) Signature of PI:

  
(PI)

  
(CO-PI)

IN WITNESS WHEREOF PARTIES HERETO HAVE ENTERED INTO THIS AGREEMENT EFFECTIVE AS THE DAY AND YEAR FIRST ABOVE WRITTEN.

For and on behalf of CPRI

*J. Sundara Rajan*  
**(Dr J. Sundara Rajan)**  
Joint Director, R & D Management Division,  
Central Power Research Institute  
Bangalore 560 080

For and on behalf of Malaviya National Institute of Technology Jaipur

*[Signature]*  
**(Prof. Dr. A.B. Gupta)**  
Dean research & Consultancy  
Malaviya National Institute of  
Technology Jaipur, JLN Marg,  
Jaipur-302017(Rajasthan)

For and on behalf of CPRI

*[Signature]*  
**(Dr K.T. Varughese)**  
Joint Director,  
R & D Management Division,  
Central Power Research Institute,  
Bangalore 560 080

For and on behalf of Malaviya National Institute of Technology Jaipur

*[Signature]*  
**Dr P.S. Shaw**  
Registrar  
Malaviya National Institute of  
Technology Jaipur, JLN Marg,  
Jaipur-302017(Rajasthan)

*[Handwritten signature]*

*[Handwritten mark]*




## Annexure - II


TRUST RECEIPT

1. In the matter of MoU dated 09<sup>th</sup> December 2011 between **Central Power Research Institute (CPRI)**, and **Malaviya National Institute of Technology Jaipur**, regarding the Project on "Study of Metallurgical Aspects of Nitronic Steel for Under Water Part Applications"
2. The plant, Machinery and Equipment though purchased in the name of **Malaviya National Institute of Technology Jaipur** with the funds provided by CPRI, for the subject project, will be in Trust with **Malaviya National Institute of Technology Jaipur** during the implementation of the project and thereafter till they are useful for the purpose stated in the above MoU.
3. The Plant and Machinery and equipment will not be transferred or disposed of by us without the prior written approval of CPRI, and would remain with **Malaviya National Institute of Technology Jaipur**.
4. IN WITNESS THERE OF **Malaviya National Institute of Technology Jaipur** has executed these presents on 09<sup>th</sup> December 2011

Signed by

Sl.No	Name	Occupation & Address	Signature
1	<b>Prof. Dr. A.B. Gupta</b>	Dean, Research & Consultancy, Malaviya National Institute of Technology Jaipur	

For and on behalf of the **Malaviya National Institute of Technology Jaipur** in the presence of

Sl. No	Designation	Occupation & Address	Signature
1	<b>Registrar</b>	<b>Registrar, Malaviya National Institute of Technology Jaipur</b>	 Dr P.S. SHARMA