«ИПК и УП» ЕООД
«MRC & PM» Ltd.

Изх.№ 01/0009 от 13.05.2025 г.

До:
«АЕЦ Козлодуй» ЕАД
3321, гр.Козлодуй
обл. Враца
e-mail: commercial@npp.bg

Тема: индикативно предложение към пазарна консултация № 56085

Уважаеми дами и господа,

Във връзка с горецитираната покана, относно провеждане на пазарни консултации на основание чл. 44 от ЗОП, Ви предоставяме нашето

ИНДИКАТИВНО ПРЕДЛОЖЕНИЕ

за «**Доставка на софтуер за имплантиране на вихровотокови сигнали от дефекти във вихровотокови сигнали от тръба**», което включва:

1. Обща стойност за изпълнение на дейности, описани в Техническа спецификация за доставка на софтуер за имплантиране на вихровотокови сигнали от дефекти във вихровотокови сигнали от тръба към пазарна консултация № 56085 – 420 480,00 (четиристотин двадесет хиляди четиристотин осемдесет) лева, без ДДС.

2. Цената включва 1 лиценз за 1 работно място за до 10 години.

3. Начин на плащане – до 30 дни, след факта за подписване на Акта за пълно изпълнение на договора.

4. Условие за доставка – «АЕЦ Козлодуй ЕАД», DDP.

5. Срок за изпълнение: до 6 месеца.

6. Подизпълнител: CNNC Wuhan Nuclear Power Operation Technology Co., LTD.

7. Лице за контакти – Петро Безпалчук (e-mail: office@mrcpm.bg, телефон мобилен: + 359-87-654-9255, +38-096-151-7292).

Ръководител
«ИПК и УП» ЕООД

Petro
Bezpalchuk

Подписано цифровой подписью: Petro Bezpalchuk
Дата: 2025.05.13 13:07:26 +03'00'

Петро Безпалчук

Република България, област Враца, гр.Козлодуй, 3320
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中核武汉核电运行技术股份有限公司

CHINA NUCLEAR POWER OPERATION TECHNOLOGY CORPORATION, LTD.

No. UA/BMD/OFFER/DOC/20240116001

Letter of Attorney

China Nuclear Power Operation Technology Corporation, Ltd. (CNPO), in the person of the President Mr. LIU Hongyun, registered at: People's Republic of China, Post code: 430223, 1021 Minzu Avenue, East-lake High-Tech Zone, Wuhan, Hubei, with Social Credit Code - № 9142 0100 7997 9498 XF, with this letter we provide to the company "IPA I UP EOOD" (ИПК и УП ЕООД), registered in Kozloduy (Republic Bulgaria, БУЛСТАТ 203505522), grants the right:

Submit an offer, the purpose of which is to provide the following services from us - negotiate and sign the Agreement on behalf of the company "IPK I UP EOOD" (ИПК и УП ЕООД) in the procedure announced by Kozloduy nuclear power plant with the theme "Delivery of Eddynet/AN software for analysis of eddy current test data".

We hereby confirm our full warranty in respect of the services offered from our company.

Please Note: English version of documents submitted are official, and the Bulgarian language version is only for reference.

This authorization is valid until **30 December 2025**.
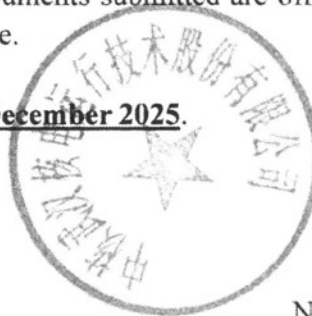
President

Name: LIU Hongyun

中核武汉核电运行技术股份有限公司
CHINA NUCLEAR POWER OPERATION TECHNOLOGY CORPORATION, LTD.

Date: 13th May 2025
Reference: TB20250513001

TECHNICAL PROPOSAL
OF
SOFTWARE FOR IMPLANTING EDDY CURRENT
SIGNALS FROM DEFECTS IN EDDY CURRENT
# SIGNALS FROM A PIPE
(CEDDY)

China Nuclear Power Operation Technology Corporation Ltd.

1.1 GENERAL DESCRIPTION

CEddy software is a eddy current testing software developed by CNPO, a company with over 20 years of experience in nuclear power plant steam generator heat transfer tube inspection. The software primarily consists of data acquisition software CEddy ACQ, data analysis software CEddy ANA, inspection planning and data management software CEddy DBM, as well as inspection management software CEddyADM, data synchronization and transmission software CEddySYN, eddy current signal numerical simulation software CEddySIM, and eddy current numerical implantation software CEddy Injector. It encompasses all the functionalities required for current heat transfer tube inspection and research.

In addition to conventional steam generator heat transfer tube defect detection, it also supports automatic contour curve measurement, fully automated signal-to-noise ratio measurement for heat transfer tubes, automatic sludge and scale measurement in heat transfer tubes, automatic defect and oxide film thickness measurement for fuel rods, as well as defect measurement for bolts and nuts. Notably, the **CEddy Injector** can generate new data sets by implanting and mixing defect signals.
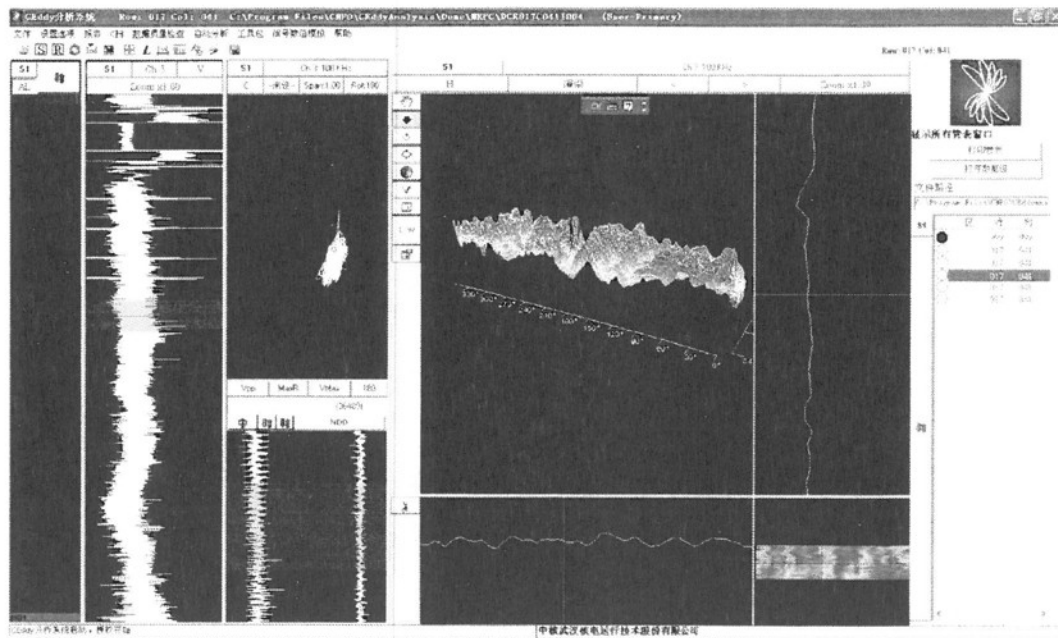
△Operation Interface

1.2 TECHNICAL CHARACTERISTICS

According to the procurement requirements of the Kozloduy Nuclear Power Plant in Bulgaria, CNPO has been prepared a Technical Proposal Compliance Form as following,

No.	Name	Technical characteristics
1		*Visualize the signal from the pipes and the calibration standards* CEddy has full scope analysis capabilities, including visualization of heat exchanger tube data (bar charts, Lissajous plots, and C-scans for both rotating probes and array probes), and of course, it also supports the display of calibration tube signals.
2		*Allow for calibrating the signal from the calibration standards;* CEddy has full scope analysis capabilities, including signal calibration and normalization: amplitude normalization and phase angle calibration functions.
3		*Allow for selection of a random section of the signal from a pipe or calibration unit. The selected signal should be capable of mixing with a signal from a random section from another pipe;* CEddy have this functionality
4	CEddy ANA + CEddy Injector	*Prior to mixing, it should be possible to apply scaling and rotation on the selected signal;* CEddy have this functionality.
5		*The mixing should not change the number of reports in the signal from the target pipe;* CEddy have this functionality.
6		*Saving the changes in the file should not change the file format;* The software is capable of parsing relevant data and saving it.
7		*The software will support data from the following equipment: "Bobbin", "MRPC", "+Point", "Array" and "X-Probe";* The software is capable of parsing relevant data and saving it.
8		*The software will support at least the following eddy current data formats: MIZ-30 and MIZ-85;* CNPO CEddy supports parsing of both MIZ-30 and MIZ-85 eddy current data formats.
9		*The license protection of the software should allow for transferring the license from one work station to another, without any intervention by the manufacturer.* CNPO can provide the software installation package, which users can install on different computers according to their needs. A valid license key (provided by CNPO) is required for activation and usage.

Function Description

1) CEddy ANA has full scope analysis capabilities, including visualization of heat exchanger tube data (bar charts, Lissajous plots, and C-scans for both rotating probes and array probes), and of course, it also supports the display of calibration tube signals.

2) CEddy ANA has full scope analysis capabilities, including signal calibration and normalization: amplitude normalization and phase angle calibration functions.

3) CEddy Injector is allow for selection of a random section of the signal from a pipe or calibration unit. The selected signal should be capable of mixing with a signal from a random section from another pipe.

4) Prior to mixing, CEddy Injector supports to apply scaling and rotation on the selected signal.

5) CEddy Injector will not change the number of reports in the signal from the target pipe during mixing.

6) CEddy ANA and CEddy Injector will not change the file format when the user saving the changes in the file.

7) CEddy ANA and CEddy Injector will support data from the following equipment: "Bobbin", "MRPC", "+Point", "Array" and "X-Probe".

8) CEddy ANA and CEddy Injector will support at least the following eddy current data formats: MIZ-30 and MIZ-85.

9) CNPO can provide the software installation package, which users can install on different computers according to their needs. A valid license key (provided by CNPO) is required for activation and usage.

1.3 TRAINING Program

CNPO will provide a 3-working-day training, the training activity will be conducted online (via web-based platform), with the main arrangements as follows:

No.	Arrangement	Description
1	Day 1	Introduction of Software, Installation Guide, etc.
2	Day 2	Software Operation Training
3	Day 3	Q&A for CEddy

1.4 LANGUAGE

The software language and training language will be in English.

- **Life cycle**
  ✓ The term of the delivered licenses will be no less than 10 years;
  ✓ CNPO will be obligated to remedy free of charge any errors registered in the software for a period of 12 months following the signing of the acceptance certificate of the software

- **Delivery and packing requirements**
  ✓ The installation package will be provided on a "flash drive" type of storage device.

- **Delivery terms**
  ✓ The Software will be delivered to the Purchaser within 6 Months after signing the Contract by both parties.