


کد سند: RO-S-F-28-02	معاونت پژوهشی	
تاریخ صدور: ۱۳۹۹/۴/۲۲		
تاریخ ویرایش: ۱۳۹۹/۵/۱۵	فرم خلاصه انگلیسی طرح / پروژه	پژوهشگاه نیرو

**Project Title:** Repairing and troubleshooting the flash point detector device of Bisotoun power plant

<b>Department:</b>	Flow plan	<b>Employer:</b>	Bisotoun power plant
<b>Project/Program Manager:</b>	Vahid Hamiyati Vaghef	<b>Executor:</b>	Morteza Mozaffari
<b>Project Financial Code:</b>	359002	<b>Project Quality Code:</b>	PMNPN03-5
<b>Type of Project/Program:</b>	Functional	<b>Assistant:</b>	Technology affair

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**Keywords:** Flash point detector device, Repair, Thermocouple, Flash point temperature, ASTM93D standard, Pensky-Martens Closed Cup

### Project Necessity:

One of the major problems in the power plant industry is the occurrence of defects in instrumentation equipment that make them unusable. These faults usually, lead to spend considerable money to replace the equipment. In this project, which was initially proposed by the power plant, it was found that the equipment has a failure which made it unusable. Further investigation by the specialized technical team of Niroo Research Institute showed that this equipment may be repairable, but it needs to be closely examined, and thus, the present project was started and successfully completed.

Although the activity was initially done with the aim of troubleshooting and commissioning this equipment, but the technical knowledge acquired can be used to design and build this equipment. Also, the equipment required professional investigation and analysis which made it beyond the power plant experts (PPEs). Additionally, PPEs busy schedule prevented them from working on this equipment and troubleshooting it.

Also, the negotiations with the production technical office (TPPH) in this regard, paved the way for the development of such measures and meeting part of the needs of the industry at a lower cost.

### Project Goals:

- Acquiring a part of the technical knowledge of designing and manufacturing the Flashpoint equipment
- Fixing the flash point equipment of Bisotoun power plant
- Preventing the outflow of currency and significantly reducing the cost for the power plant (repair instead of replacement)
- Creating a process to increase mutual trust and increase cooperation in this area

### Abstract:

Noting that the flash point device is one of the important instruments of the chemical laboratories of each power plant, after observing the technical problem in this equipment in Bisotoun power plant, it was studied initially. Thereafter, it was sent to NRI for more analysis and fixing its technical problems. Consequently, the device faults was identified and successfully repaired and then successfully tested and verified by power plant experts.

### **Steps and Methodologies:**

The project is done in the following steps:

- Primary studies
- Check, analysis and inspect the device troubleshooting
- Study and review troubleshooting solutions
- Apply the studied solutions and troubleshoot the equipment
- Equipment test in Niroo Research Institute
- Sending equipment to the power plant and conducting tests in the power plant and obtaining performance approval from the power plant

### **Main Results (technical outputs, patents, papers, books, reports, etc.):**

The equipment has been successfully repaired and its function verified and accepted by power plants experts.