

PETRONAS TECHNICAL STANDARDS

DESIGN AND ENGINEERING PRACTICE

ELECTRICAL HEATING SYSTEM FOR FROST HEAVE PREVENTION OF REFRIGERATED HYDROCARBON STORAGE TANKS

**PTS 33.68.30.31
MARCH 2010**



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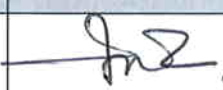
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PTS Circular 2010 - SKG13 - 16	PETRONAS 
PTS No:	PTS 33.68.30.31
Publication Title:	Electrical Heating System for Frost Heave Prevention of Refrigerated Hydrocarbon Storage Tanks
Base PTS Version:	Release 14

This revision of **PTS 33.68.30.31 - Electrical Heating System for Frost Heave Prevention of Refrigerated Hydrocarbon Storage Tanks (March 2010)** has been updated incorporating PETRONAS Lessons Learnt, Best Practice and new information issued by relevant industry code and standards.

The previous version of this **PTS 33.64.10.32 - Electrical Heating System for Frost Heave Prevention of Refrigerated Hydrocarbon Storage Tanks (February 2009)** shall be removed from PTS binder / e-repository and replaced by **PTS 33.68.30.31 - Electrical Heating System for Frost Heave Prevention of Refrigerated Hydrocarbon Storage Tanks (March 2010)** herein onwards.

Document Approval

	Name	Designation	Date	Signature
Prepared	Salmey Abd Halim	Custodian, Electrical Engineering, GTS	12/02/10	
Technical Approved	M Faudzi M Yasir	Custodian, Electrical Engineering, GTS	22/02/10	
Reviewed	Zaidi Md Arus	Manager, Electrical Engineering, GTS	22/1/10	
Verified	Pau Kiew Huai	Senior Manager, Plant Engineering, GTS		
Endorsed	Pau Kiew Huai	Acting Senior General Manager, GTS	23.2.2010	

Revision History

Date	Version	Description of Updates	Author

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1. INTRODUCTION

1.1 SCOPE

This PTS specifies requirements and gives recommendations for the electrical heating system used for preventing frost heave of refrigerated storage tanks. It covers design, material selection, installation and testing.

This PTS is a revision of the PTS with the same number dated October 2001.

Revision was necessary in view of the changes in design of these types of tank and for alignment with PTS 33.68.30.32 "Electrical Trace Heating".

1.2 DISTRIBUTION, INTENDED USE AND REGULATORY CONSIDERATIONS

Unless otherwise authorised by PETRONAS, the distribution of this PTS is confined to companies forming part of PETRONAS or managed by a Group company, and to Contractors and Manufacturers/Suppliers nominated by them.

This PTS is intended to be used in new construction projects for, and in the retrofitting, operation and maintenance of exploration and production facilities, oil refineries, chemical plants, gas plants and supply/marketing installations.

If national and/or local regulations exist in which some of the requirements may be more stringent than in this PTS, the Contractor shall determine by careful scrutiny which of the requirements are the more stringent and which combination of requirements will be acceptable as regards safety, environmental, economic and legal aspects.

In all cases the Contractor shall inform the Principal of any deviation from the requirements of this PTS which is considered to be necessary in order to comply with national and/or local regulations. The Principal may then negotiate with the Authorities concerned, the objective being to obtain agreement to follow this PTS as closely as possible.

1.3 DEFINITIONS

1.3.1 General definitions

The **Manufacturer/Contractor** is the party that designs, engineers and accepts responsibility for installation, commissioning and maintenance optional of a trace heating system. The Principal may sometimes undertake all or part of the duties of the Contractor.

The **Manufacturer/Supplier** is the party that manufactures or supplies equipment and services to perform the duties specified by the Contractor as defined in the specific definitions in (1.3.2).

The **Principal** is the party that initiates the project and ultimately pays for its design and construction. The Principal will generally specify the technical requirements. The Principal may also include an agent or consultant, authorized to act for the Principal

The word **shall** indicate a requirement.

The word **should** indicate a recommendation.